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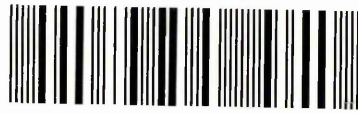
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**UNDERSTANDING, PREDICTING AND INFLUENCING BUSINESS
STUDENTS' ACCOUNTING CAREER CHOICE**

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A thesis submitted in partial fulfilment of the requirements of the
Sheffield Hallam University
for the degree of Doctor of Philosophy

December 2006



Declaration

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Abstract

This thesis proposes and evaluates a new integrated model of accounting career choice (ACC), drawing upon current theories of planned behaviour and work values and past accounting research. Furthermore, the thesis investigates changes to the model's constructs after business students have been exposed to a traditional versus an innovative first accounting course (FAC).

Combining a longitudinal approach with a quasi-experimental design, the findings of the study show the following:

First, subjective norm, attitude and perceived control are all significant predictors of first semester business students' intention to pursue a career in the accounting profession. However, regression analysis revealed that of the dimensions of attitude, only the intrinsic dimension is a significant predictor of intention. Extrinsic, prestige and social dimensions do not contribute to the prediction. Normative beliefs concerning the pursuit of an accounting career, beliefs concerning the intrinsic attributes and outcomes associated with the accounting profession and self-efficacy beliefs concerning the pursuit of an accounting career have been identified as the important sub-constructs of an ACC.

Second, at the end of the traditional FAC, subjective norm has statistically significantly improved; however, all other constructs of an ACC have been negatively affected, and students' perceived control has statistically significantly deteriorated. On the other hand, at the end of an innovative FAC, intention, subjective norm and attitude have statistically significantly improved while perceived control has remained stable. Significant differences in all the constructs of an ACC have been identified among students in both the traditional and the innovative FACs. The identified differences can be attributed to the additional information about the accounting profession that students in innovative courses received through accounting practitioners' presentations. The thesis supports prior research that professional accountants making presentations is a very effective strategy of integrating information about the accounting profession into classroom practice and of influencing students' intention to pursue an accounting career.

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Eleni P. Tourna-Germanou
December 2006

Abbreviations

A.E.	Anonymi Etairia
AAA	American Accounting Association
ACC	Accounting Career Choice
AE	Accounting Education
AECC	Accounting Education Change Commission
AICPA	American Institute of Certified Public Accountants
ANOVA	Univariate Analysis of Variance
AP	Accounting Profession
ATEI	Higher Technological Educational Institute
CPA	Certified Public Accountants
Dim	Dimension
EFA	Exploratory Factor Analysis
EGLS	Hellenic General Accounting Plan
EVM	Expectancy Value Model
FA	Factor Analysis
FAC	First Accounting Course
FSA	Federation of Schools of Accountancy
ICAA	Institute of Chartered Accountants in Australia
ICAEW	Institute of Chartered Accountants in England and Wales
IEK	Institutes of Vocational Training,
IFAC	International Federation of Accountants
IMA	Institute of Management Accountants
KBS	Code of Books and Records
KBS	Greek Tax Law
KMO	Kaiser-Meyer-Olkin
KSA	Knowledge, skills and abilities
MANOVA	Multivariate Analysis of Variance
OEE	Chamber of Economics of Greece
PC	Perceived Control
PCA	Principal Components Analysis
SD	Standard Deviation
SN	Subjective Norm
SOL	Society of Sworn Accountants (Soma Orkoton Logiston)
SPSS	Statistical Package for the Social Sciences
StD	Standard Deviation
TPB	Theory Planned Behaviour
TRA	Theory of Reasoned Action
TWV	Theory of Work Values
UK	United Kingdom
USA	United States of America
WV	Work Values

UNDERSTANDING PREDICTING AND INFLUENCING BUSINESS STUDENTS' ACCOUNTING CAREER CHOICE

Table of Contents

Declaration	ii
Abstract.....	iii
Dedication	iv
Acknowledgments	v
Abbreviations	vi
Table of Contents	vii
Appendices.....	xii
List of Figures.....	xiv
List of Tables	xv

Chapter 1. INTRODUCTION..... 1

1.1 Background to the research.....	1
1.2 Aim of the study	2
1.2.1 Research questions	3
1.2.2 Research objectives	3
1.3 Significance of the study.....	3
1.4 Delimitation of scope.....	4
1.5 Structure of study.....	5

Chapter 2. THE ACCOUNTING CAREER CHOICE LITERATURE REVIEW..... 9

2.1 Introduction	9
2.2 The international accounting profession.....	9
2.2.1 The emergence and development of the accounting profession.....	10
2.2.2 The information age and the accounting profession.....	14
2.2.3 Future professional accountants	16
2.3 The Greek accounting profession	19
2.3.1 The emergence of the Greek accounting profession	19
2.3.2 The Greek accounting profession after 1990.....	22
2.4 Recruitment into the accounting profession.....	24
2.4.1 Strategies for recruiting students into the accounting profession.....	26
2.4.2 The constructs of an accounting career choice.....	29
2.4.2.1 Accounting stereotypes	29
2.4.2.2 Factors influencing students' career decisions	32
2.4.2.2.1 Work values (general preferred job characteristics, personal goals)	32
2.4.2.2.2 Specific factors related to the accounting career choice.....	34
2.4.2.3 Perceptions of the accounting profession	38
2.4.2.4 Attitudes towards the accounting profession.....	39
2.4.2.5 Investigating the ACC under a theoretical framework	41
2.4.2.6 Persons influencing the accounting career choice	43
2.4.2.7 First accounting course performance.....	44
2.4.3 When students decide on an accounting career choice.....	44
2.5 Chapter summary	45

Chapter 3. ACCOUNTING EDUCATION AND CAREER CHOICE LITERATURE REVIEW 48 |

3.1 Introduction	48
3.2 Accounting education	48

3.2.1	Origin and development of accounting education.....	48
3.2.2	Calls for changes in accounting education for the 21st century	53
3.3	First accounting course.....	58
3.3.1	Structure of first accounting course.....	58
3.3.2	Redesigning the first accounting course.....	61
3.4	Information for the accounting profession.....	66
3.4.1	Accounting practitioners as source of information.....	69
3.4.2	Guest speakers' events	70
3.5	Chapter summary.....	71
Chapter 4. THEORETICAL FRAMEWORK OF ACCOUNTING CAREER CHOICE		73
4.1	Introduction	73
4.2	Theories of career development.....	74
4.2.1	Differential theories to match people and occupations	75
4.2.2	Developmental theories.....	76
4.2.3	Cognitive vocational developmental models.....	78
4.2.4	Justification for development of new integrated theoretical framework	80
4.3	Development of theoretical framework of the study.....	82
4.3.1	Theory of planned behaviour	83
4.3.1.1	Subjective norm.....	85
4.3.1.2	Attitude and expectancy value model.....	86
4.3.1.3	Perceived behaviour control.....	89
4.3.2	Theory of work values	90
4.3.3	New integrated theoretical framework for accounting career choice	95
4.3.3.1	Subjective norm concerning the pursuit of a career in the AP	95
4.3.3.2	Attitude towards pursuing a career in the AP	96
4.3.3.3	Perceived behaviour control over pursuing a career in the AP.....	101
4.4	Changes in students' attitude towards pursuing a career in the AP	104
4.4.1	Active participation – Traditional first accounting course	105
4.4.2	Persuasive communication – Innovative first accounting course.....	107
4.5	Statement of hypotheses	109
4.6	Chapter summary.....	112
Chapter 5. RESEARCH METHODOLOGY		114
5.1	Introduction	114
5.2	Choice of research paradigm and research methodology.....	114
5.2.1	Research paradigm	114
5.2.1.1	Positivism	115
5.2.1.2	Interpretivism	116
5.2.2	Philosophical assumptions	118
5.2.2.1	Ontology.....	118
5.2.2.2	Epistemology.....	119
5.2.2.3	Human nature	119
5.2.2.4	Methodology	120
5.2.3	Qualitative and quantitative methodologies	121
5.2.3.1	Qualitative research methodology	121
5.2.3.2	Quantitative research methodology.....	122
5.2.4	Factors influencing choice of paradigm and methodology	124
5.3	Research design of study	125
5.3.1	Research process	126
5.3.2	Research model of study	127
5.4	Research strategies.....	127
5.4.1	Research strategy for stage one.....	127
5.4.1.1	Integrated theoretical framework of ACC.....	128
5.4.1.2	Development of instrument.....	130
5.4.1.2.1	Pre-Pilot work 1	130
5.4.1.2.2	Pre-pilot work 2.....	131
5.4.1.2.3	The main pilot study.....	131
5.4.2	Research strategy for stage two.....	132
5.4.2.1	Longitudinal survey.....	133
5.4.3	Research strategy for stage three.....	134

5.4.3.1	Quasi-experimental research design.....	134
5.4.3.2	Limitation of quasi-experimental research	137
5.4.4	Controlling for confounding variables	139
5.5	Settings and subjects.....	140
5.5.1	Settings.....	140
5.5.1.1	Higher Technological Educational Institutes (ATEIs)	140
5.5.1.2	Department of Business Administration.....	141
5.5.1.3	First accounting course (FAC)	142
5.5.2	Subjects	143
5.5.2.1	Screening to determine usable cases	144
5.6	Data collection and procedures.....	145
5.6.1	Questionnaire as method of data collection.....	145
5.6.2	Procedures.....	147
5.6.2.1	Step 1: Pre-test (treatment).....	147
5.6.2.2	Step 2: Intervention – traditional and innovative accounting courses	147
5.6.2.3	Step 3: Post-test – data collection and procedures.....	149
5.7	Statistical tests	149
5.7.1	Descriptive statistics.....	150
5.7.2	Coefficient alpha	150
5.7.3	Factor analysis.....	150
5.7.4	Testing hypotheses by linear multiple regression analysis.....	152
5.7.5	Testing hypotheses by multivariate analysis of variance	153
5.7.6	Testing the hypotheses by T-test and analysis of variance (ANOVA).....	154
5.8	Measurement issues of research variables	154
5.8.1	Reliability.....	155
5.8.2	Validity.....	155
5.9	Summary.....	156
Chapter 6. PREPARATION OF RESEARCH DATA		158
6.1	Introduction	158
6.2	Quantitative analysis procedures and techniques.....	158
6.3	Screening data prior to analysis	159
6.3.1	Questionnaire editing	159
6.3.2	Creating appropriate databases.....	160
6.3.3	Coding and data entry	160
6.3.4	Reversal items and missing data	161
6.4	Reliability assessment.....	161
6.4.1	Internal reliability analysis.....	162
6.4.1.1	Internal reliability analysis – Scales of the constructs of an ACC.....	163
6.4.1.2	Internal reliability analysis – Scales of confounding variables	168
6.4.2	External reliability.....	170
6.5	Validity assessment	171
6.5.1	Assessment of suitability of data for factor analysis (FA)	172
6.5.2	Factor extraction.....	172
6.5.3	Factor rotation.....	173
6.5.4	Factor analysis – selection of final items	174
6.5.4.1	Factor analysis 1: Normative beliefs scale	174
6.5.4.2	Factor analysis 2: Motivation to comply scale	175
6.5.4.3	Factor analysis 3: Work values scale.....	175
6.5.4.4	Factor analysis 4: Accounting beliefs scale.....	178
6.5.4.5	Factor analysis 5: Accounting self-efficacy beliefs scale.....	186
6.5.4.6	Factor analysis 6: Importance of possessing relevant self-efficacies scale.....	186
6.5.4.7	Factor analysis 7: Accounting intention scale	187
6.5.4.8	Factor analysis 8: Impression of accounting educator scale.....	188
6.5.4.9	Factor analysis 9: Perception of FAC scale.....	190
6.6	Manipulation of data for main analysis.....	192
6.6.1	Creating final measures of study	192
6.6.2	Creating new categorical variables of intention	205
6.6.3	Choice of ATEI as innovative and traditional groups	206
6.7	Summary.....	206

Chapter 7. EMPIRICAL TESTING OF THE THEORETICAL MODEL OF ACC 208

7.1	Introduction	208
7.2	Sample profile.....	208
7.3	Descriptive statistics	210
7.4	Testing the hypotheses related to the model of an ACC	214
7.5	Analysis overview	216
7.6	Regression analysis: Testing the model of an ACC.....	222
7.6.1	Testing the model of an ACC: Beginning of the FAC	224
7.6.1.1	Standard regression analysis: Intention against the main predictors	225
7.6.1.1.1	Testing the assumptions (Practical Issues).....	226
7.6.1.1.2	Evaluating the model.....	229
7.6.1.1.3	Evaluating each of the independent variables	230
7.6.1.2	Stepwise regression analysis: Intention against the sub-predictors	230
7.6.1.2.1	Testing the assumptions	230
7.6.1.2.2	Evaluating the model.....	233
7.6.1.2.3	Evaluating each of the independent variables	234
7.6.2	Testing the model of an ACC: End of the FAC	236
7.6.2.1	Hierarchical regression analysis.....	236
7.6.2.1.1	Testing the assumptions	237
7.6.2.1.2	Evaluating the model.....	239
7.6.2.1.3	Evaluating each of the independent variables	240
7.6.2.1.4	Mediation effect	242
7.7	ANOVA: Differences in constructs of an ACC between groups of interntion.....	244
7.7.1	Exploring the differences: Beginning of the FAC.....	246
7.7.1.1	Tests of between-students effects.....	246
7.7.2	Exploring the differences: End of the FAC.....	248
7.7.2.1	Tests of between-students effects.....	249
7.8	Summary.....	251

Chapter 8. INVESTIGATING THE EFFECT OF FAC ON CONSTRUCTS OF ACC MODEL . 253

8.1	Introduction	253
8.2	Sample profile.....	253
8.3	Preliminary analysis.....	255
8.3.1	Descriptive statistics for the constructs of an ACC.....	255
8.3.2	Testing initial equivalence between traditional and innovative groups.....	258
8.4	Hypotheses relating to investigation of effects of FAC on ACC constructs.....	259
8.5	Investigating the effect of traditional FAC on ACC constructs	260
8.6	Investigating the effect of innovative FAC on ACC constructs.....	262
8.7	Control group tests.....	263
8.8	Differences in constructs of an ACC between traditional and innovative FAC groups.....	264
8.8.1	Independent T-test.....	264
8.8.2	MANOVA.....	265
8.8.2.1	Preliminary analysis and testing MANOVA assumptions	266
8.8.2.2	Multivariate testing.....	270
8.8.2.3	ANOVA follow-up.....	271
8.8.3	Mixed between-within subjects analysis of variance	272
8.9	Differences in confounding variables between traditional and innovative FACs.....	274
8.10	Summary.....	279

Chapter 9. DISCUSSION OF RESEARCH FINDINGS 280

9.1	Introduction	280
9.2	Model of an ACC.....	280
9.2.1	Evaluating the model of an ACC	281
9.2.1.1	Subjective norm concerning pursuit of career in the AP	282
9.2.1.2	Attitude towards pursuing a career in the AP.....	283
9.2.1.3	Perceived control over pursuing career in the AP	286
9.2.1.4	Confounding variables	288
9.3	Explaining differences in management students' intentions to pursue a career in AP at beginning of FAC	289
9.3.1	Differences in subjective norm	290

9.3.2	Differences in attitude	292
9.3.2.1	Differences in beliefs concerning attributes and outcomes associated with the AP.....	294
9.3.2.2	Differences in work values.....	297
9.3.3	Differences in perceived control	299
9.4	Investigating the effects of a FAC on constructs of an ACC model.....	301
9.4.1	Traditional FAC	302
9.4.2	Innovative FAC.....	306
9.4.3	Differences between traditional and innovative FACs.....	311
9.5	Summary.....	316
Chapter 10. CONCLUSION		317
10.1	Introduction	317
10.2	Summary of study.....	317
10.3	Overview of main findings	319
10.3.1	Accounting career choice	319
10.3.2	Effect of FACs on ACC	320
10.4	Contributions	321
10.5	Practical implications.....	322
10.6	Limitations.....	323
10.7	Future research.....	325
References		328
Appendices		362

Appendices

Appendix 5.1	Greek Educational System	363
Appendix 5.2a	English Questionnaire-Point 1	364
Appendix 5.2b	English Questionnaire-Point 2	370
Appendix 5.3a	Greek Questionnaire-Point 1	377
Appendix 5.3b	Greek Questionnaire-Point 2	383
Appendix 6.1	Scales of the study	392
	Construct of Subjective Norm	392
	Construct of Attitude	392
	Construct of Perceived Control	394
	Construct of Intention	394
	Confounding variable-Perception of FAC	395
	Confounding variable-Impression of Accounting educator	395
Appendix 7.1	Mediation effect	396
Table 1	Model Summary Stage I	396
Table 2	ANOVA Stage I	396
Table 3	Coefficients Stage I	396
Table 4	Model Summary Stage II	396
Table 5	ANOVA Stage II	396
Table 6	Coefficients Stage II	397
Table 7	Model Summary Stage III	397
Table 8	ANOVA Stage III	397
Table 9	Coefficients Stage III	397
Appendix 7.2a	Differences concerning the constructs of ACC among groups of intention- Beginning of the FAC	398
Table 1	Multiple Comparisons Tukey HSD-Beginning of the FAC	398
Table 2	Multiple Comparisons (Sheffe test)-Beginning of the FAC	399
Fig 1-7	Means Plot-Differences among groups-Beginning of the FAC	400
Appendix 7.2b	Differences concerning the SN among groups of intention	402
Table 1	Descriptive statistics- Constructs of SN	402
Table 2	Test of Homogeneity of Variances- Constructs of SN	402
Table 3	ANOVA Test-Constructs of SN	402
Table 4	Multiple Comparisons among groups of intention concerning the constructs of SN (Tukey HSD)	402
Table 5	Descriptive statistics- Dimensions of SN	403
Table 6	Descriptive Statistics- Individual Items of SN	404
Appendix 7.2c	Differences concerning the Attitude among groups of intention	405
Table 1	Descriptive Statistics- Work values	405
Table 2	Descriptive Statistics-Beliefs concerning attributes and outcomes associated with the AP	405
Table 3	Test of Homogeneity of Variances -Dimensions of WV and Beliefs	406
Table 4	ANOVA Test-Dimensions of WV and Beliefs	406
Table 5	Multiple Comparisons among groups of intention-Dimensions of WV and Beliefs (Tukey HSD)	407
Table 6	Descriptive statistics-Dimensions of Attitude, Perception and Attitude	408
Table 7	Descriptive statistics-Sub Dimensions of Attitude	409
Table 8	Descriptive statistics-Individual items of Work Values	410
Table 9	Descriptive statistics- Individual items of beliefs concerning the attributes and outcomes of AP	411
Appendix 7.2d	Differences concerning the PC among groups of intention	413
Table 1	Descriptive statistics-Constructs of PC	413
Table 2	Test of Homogeneity of Variances for the constructs of PC	413
Table 3	ANOVA-Test-Constructs of PC	413
Table 4	Multiple Comparisons among groups concerning the constructs of PC (Tukey HSD)	413
Table 5	Descriptive statistics-Dimensions of PC	414
Table 6	Descriptive Statistics-Individual items of PC	414
Appendix 7.3	Differences concerning the main constructs of ACC among groups of intention- End of the FAC	415

Table 1:	Multiple Comparisons (Tukey HSD Test) - End of the FAC	415
Table 2:	Multiple Comparisons (Sheffe Test)-End of the FAC.....	416
Fig 1.7	Mean Plots-Differences among groups of Intention-End of the FAC	417
Appendix 8	The effect of a traditional and an innovative FAC on the constructs of an ACC.	419
Table 1	Descriptive Statistics-Constructs of SN	419
Table 2	Descriptive Statistics- -Individual items of SN	419
Table 3	Descriptive statistics- Types of Work Values	420
Table 4	Descriptive statistics-Types of Beliefs concerning the attributes and outcomes associated with the AP	420
Table 5	Descriptive statistics- Individual items of Work values	421
Table 6	Descriptive statistics-Individual items of Beliefs	422
Table 7	Descriptive statistics - Sub dimensions of Attitude	424
Table 8	Descriptive statistics of the constructs of PC	424
Table 9	Descriptive Statistics-Individual items of PC.....	425
Appendix 8.4	Effect of Traditional FAC on sub constructs of ACC	426
Table 1	Paired Samples Statistics-Work Values and Beliefs- Traditional FAC.....	426
Table 2	Paired Samples T-Test - Differences in WV and Beliefs-Traditional FAC	426
Appendix 8.5	Effect of innovative FAC on sub constructs of ACC	427
Table 1	Paired Samples Statistics -Work Values and Beliefs-Innovative FAC	427
Table 2	Paired Samples T-Test - Differences in WV and Beliefs - Innovative FAC	427
Appendix 8.6	Differences on constructs of an ACC among groups of students in traditional and innovative FAC.....	428
Table 1	Descriptive statistics-Dimension of SN.....	428
Table 2	Independent Samples T-Test - Dimensions of SN	428
Table 3	Descriptive statistics-Sub-Dimensions of Attitude.....	429
Table 4	Independent Samples T-Test - Sub- Dimensions of Attitude	429
Table 5	Descriptive statistics- Dimensions of PC	430
Table 6	Independent Samples Test Sub- Dimensions of PC	430

List of Figures

Figure 1.1: Structure of current study	8
Figure 4.1: Theory of planned behaviour.....	84
Figure 4.2: Cognitive beliefs, Attitudes, Intention and Behaviour.....	88
Figure 4.3: Conceptualization of an ACC based on the theory of planned behaviour	95
Figure 4.4: Conceptualization of subjective norms concerning the pursuit of a career in the AP	96
Figure 4.5: Conceptualization of specific vocational attitude.....	99
Figure 4.6: Conceptualization of perceived control over pursuing a career in the AP.....	102
Figure 4.7: Integrated theoretical framework used in study.....	103
Figure 5.1: Research model of study.....	127
Figure 6.1: Model of quantitative data analysis procedures.....	159
Figure 6.2: Measures used in the study and their relationships.....	194

List of Tables

Table 4.1: Description of different types of beliefs concerning the attributes and outcomes associated with the AP and work values	100
Table 5.1: Features of the two main paradigms	118
Table 5.2: Distinctions between quantitative and qualitative research	123
Table 5.3: Quasi-experimental design – Non-equivalent control group	136
Table 5.4: Guidelines for identifying significant factor loadings based on sample size.	152
Table 6.1: Alpha coefficient and item-total correlation for normative beliefs scale	164
Table 6.2: Alpha coefficient and item-total correlation for motivation to comply scale.....	164
Table 6.3: Alpha coefficient and item-total correlation for work values scale	165
Table 6.4: Alpha coefficient and item-total correlation for beliefs scale (Perception)	165
Table 6.5: Alpha coefficient and item-total correlation for the accounting self efficacy beliefs scale	167
Table 6.6: Alpha coefficient and item-total correlation for the Scale of importance of possessing relevant vocational self-efficacies.....	167
Table 6.7: Alpha coefficient and item-total correlation for accounting intention scale	168
Table 6.8: Alpha coefficient and item-total correlation for accounting educator scale.....	169
Table 6.9: Alpha coefficient and item-total correlation for FAC scale.....	169
Table 6.10: KMO and Bartlett's Test-Normative beliefs scale.....	174
Table 6.11: Total Variance Explained-Normative beliefs scale.....	174
Table 6.12: KMO and Bartlett's Test-motivation to comply scale.....	175
Table 6.13: Total Variance Explained-Motivation to comply scale.....	175
Table 6.14: KMO and Bartlett's Test-Work values scale	176
Table 6.15: Total Variance Explained-Work values scale	177
Table 6.16: Rotated Component Matrix-Work values scale	178
Table 6.17: KMO and Bartlett's Test-Accounting beliefs scale (sub-dimensions).....	179
Table 6.18: Total Variance Explained-Accounting beliefs scale (sub-dimensions).....	179
Table 6.19: The factor loadings of 30 items of beliefs concerning attributes of the AP (sub-dimensions)	181
Table 6.20: KMO and Bartlett's Test-Accounting beliefs scale (dimensions).....	183
Table 6.21: Total Variance Explained-Accounting beliefs scale (dimensions)	184
Table 6.22: Rotated Component Matrix-Accounting beliefs scale (dimensions)	184
Table 6.23: KMO and Bartlett's Test-Accounting self-efficacy beliefs	186
Table 6.24: Total Variance Explained-Accounting self-efficacy beliefs	186
Table 6.25: KMO and Bartlett's Test-Importance of possessing the self efficacies scale	187
Table 6.26: Total Variance Explained-Importance of possessing the items on self-efficacies scale	187
Table 6.27: KMO and Bartlett's Test-Accounting intention scale.....	187
Table 6.28: Total Variance Explained-Accounting intention scale.....	188
Table 6.29: KMO and Bartlett's Test-Impression of accounting educator scale	188
Table 6.30: Total Variance Explained- Impression of accounting educator scale	189
Table 6.31: Rotated Component Matrix- Impression of accounting educator scale	190
Table 6.32: KMO and Bartlett's Test-Perception of FAC scale	191
Table 6.33: Total Variance Explained-Perception of FAC scale	191
Table 6.34: Rotated Component Matrix-Perception of FAC scale	192
Table 7.1: Demographics of the sample.....	208
Table 7.2: Intention to pursue a career in the AP.....	209
Table 7.3: Subjective norm	210
Table 7.4: Attitude and dimensions of Attitude towards pursuing an accounting career.....	210
Table 7.5: Dimensions of beliefs concerning attributes and outcomes associated with the AP and perceptions of the AP (total beliefs).....	211
Table 7.6: Work values	211
Table 7.7: Perceived control	212
Table 7.8: Perception of FAC	212
Table 7.9: Impression of accounting educator	213
Table 7.10: Intercorrelation matrix (standard regression) at beginning of FAC	225
Table 7.11: Collinearity statistics (standard regression) at beginning of FAC	225
Table 7.12: Casewise Diagnostics of standard regression – Beginning of FAC	227
Table 7.13: Model Summary of standard regression – Beginning of FAC.....	228
Table 7.14: Analysis of variance (ANOVA) in standard regression – Beginning of FAC	228
Table 7.15: Coefficients results of standard regression analysis – Beginning of FAC	229

Table 7.16: Intercorrelation matrix – Stepwise regression – Beginning of FAC	229
Table 7.17: Collinearity statistics – Stepwise regression – Beginning of FAC	230
Table 7.18: Casewise Diagnostics – Stepwise regression – Beginning of FAC	232
Table 7.19: Model Summary – Stepwise regression – Beginning of FAC	232
Table 7.20: ANOVA in stepwise regression – Beginning of FAC	233
Table 7.21: Coefficients in stepwise regression – Beginning of FAC	233
Table 7.22: Intercorrelation matrix – Hierarchical regression – End of FAC	235
Table 7.23: Collinearity statistics – Hierarchical regression – End of FAC	236
Table 7.24: Casewise Diagnostics – Hierarchical regression – End of FAC	237
Table 7.25: Models Summary – Hierarchical regression – End of FAC	238
Table 7.26: ANOVA – Hierarchical regression – End of FAC	239
Table 7.27: Coefficients of hierarchical regression – End of FAC	239
Table 7.28: Results of testing the model hypotheses	242
Table 7.29 Groups of different intention to pursue a career in the AP	243
Table 7.30: Test of Homogeneity of Variances Beginning of the FAC	244
Table 7.31: ANOVA – Beginning of FAC	245
Table 7.32: Test of homogeneity of variances – End of FAC	247
Table 7.33: ANOVA – End of FAC	248
Table 7.34: Results of identifying differences hypotheses	249
Table 8.1: Demographic characteristics of the matched sample	253
Table 8.2: Descriptive statistics – Main constructs of ACC	254
Table 8.3: Descriptive statistics – Dimensions of SN	255
Table 8.4: Descriptive statistics – Dimensions of attitude	255
Table 8.5: Descriptive statistics – Dimensions of PC	256
Table 8.6: T-test for initial equivalence between traditional and innovative FAC groups	256
Table 8.7: Change in ACC constructs in traditional FAC group	258
Table 8.8: Changes in ACC constructs in innovative FAC group	260
Table 8.9: Changes in ACC constructs in control group	261
Table 8.10: Results of T test between two groups regarding intention at the end of the FAC	262
Table 8.11: Descriptive statistics for MANOVA test	264
Table 8.12: Box’s test of equality of covariance	265
Table 8.13: Levene’s test of equality of error variances	265
Table 8.14: Pearson correlation coefficients among the constructs of ACC	266
Table 8.15: Collinearity statistics among the constructs of ACC	266
Table 8.16: Tests of normality – Kolmogorov-Smirnov test	267
Table 8.17: Descriptive statistics for Mahalanobis distance	267
Table 8.18: Results of MANOVA test	268
Table 8.19: Statistical difference between two FAC groups concerning constructs of ACC	269
Table 8.20: Intention-Results of mixed between-within subjects ANOVA	270
Table 8.21: Subjective Norm – Results of mixed between-within subjects ANOVA	271
Table 8.22: Intrinsic dimension – Results of mixed between-within subjects ANOVA	271
Table 8.23: Prestige dimension – Results of mixed between-within subjects ANOVA	271
Table 8.24: Perceived control – Results of mixed between-within subjects ANOVA	272
Table 8.25: Descriptive statistics – Perception of FAC	272
Table 8.26: Test of homogeneity of variances	273
Table 8.27: ANOVA test of different ATEIs concerning perception of FAC	273
Table 8.28: Multiple comparisons – Tukey HSD for perception of FAC	274
Table 8.29: Descriptive statistics – Impression of accounting educator	275
Table 8.30: Test of homogeneity of variances	275
Table 8.31: ANOVA test between different ATEIs concerning accounting educator	275
Table 8.32: Multiple comparisons (Tukey HSD) for accounting educators	276

Chapter 1.

INTRODUCTION

1.1 Background to the research

Technology, globalization, new business relationships and the multidisciplinary economic environment have changed the accounting profession (hereafter AP) (Parker, 2001; Zeff, 2003a; Zeff, 2003b; Walker, 2004). For many years, companies have employed accountants to keep accounting books and records, and to prepare financial accounting information and statements for managers, investors and other parties that are interested in the economic position of the company. Today the AP is growing at an enormous rate and the role of accountants is continually expanding as they have redefined their activities from primarily information processors to strategic business advisors (Albrecht and Sack, 2000; Parker, 2001; Holtzman, 2004). As a result, the AP today requires a new type of professional accountant with diverse knowledge, skills and competences quite different from those in previous decades. Professional accounting bodies (AICPA 1991a, 1991b, 1991c, 1998, 1999a, 1999b) and accounting scholars (Jacoby, 1981; Wolk and Nikolai, 1997; Albrecht and Sack, 2000) have highlighted the need for the recruitment of accountants from other business and general departments.

Unfortunately stereotypes of accountants and the perceptions of, and attitudes towards, the AP have not changed. Recent years have witnessed a continual decline in enrolments in accounting programmes. The AP has lost its ability to attract top students and this has led to concerns about the future of the AP (Albrecht and Sack, 2000; AICPA, 2000; Marriott and Marriott, 2003; Byrne and Willis, 2003).

Up-to-date empirical research has predominantly focused on factors that affect an accounting career choice (hereafter ACC) by business students (Powell, 1966; Ashworth, 1969; Carpenter and Strawser, 1970; Evans, 1974; Auyeng and Sands, 1997; Lowe and Simons, 1997; Ahmed et al., 1997). A number of studies have examined different constructs involved in an ACC, such as stereotypes, perceptions and attitudes (Cory, 1992; Nelson, 1992; Nelson and Vondryk, 1996; Marriott and Marriott, 2003; Byrne and Willis, 2005). With a few exceptions (Cohen and Hanno, 1993, Felton et. al., 1995; Allen, 2004; Tan and Laswad, 2006), there is a scarcity of theoretically-informed investigations about the ACC of business and accounting students.

Moreover, the diversity of conceptual and definitional issues concerning the constructs of an ACC limits the understanding of business students' vocational decision making. A better understanding of career decision making by business students is of great importance. Decision making is a complex, dynamic and cognitive process in which an individual uses reasoning to evaluate possible alternatives systematically and to make a choice between alternatives in order to reach consistency between premises and conclusions (Bross, 1953). A holistic approach that integrates and accommodates all the main constructs of an ACC is needed that allows for a meaningful grouping of what has been a disparate body of research in the ACC.

The problem with the recruitment of students into the AP has prompted widespread calls for a role of accounting education (hereafter AE) in the recruitment process (Albrecht and Sack, 2000; Marriott and Marriott, 2003), mainly for such a role in the first accounting course (hereafter FAC) (Nelson, 1992). Students enrolled in a business curriculum are required to take a FAC. It is in this course that some students receive their first exposure to accounting. The FAC is where the profession has the greatest opportunity to reach a self-selected group with a predisposition for an accounting career (Mauldin et al., 2000). This class is advantageously sequenced in either the first or second academic year. Such positioning should help recruit business students into the AP (Albrecht and Sack, 2000).

However, one of the problems of attracting "diverse" students into the AP is the structure of the FAC. Emphasis on the mechanics of accounting and an absence of relevant information about a changing and expanding AP does not engender positive attitudes towards the profession that might lead students to continue beyond the FAC. Very little research has focused on the effect of the FAC on the constructs of an ACC (Fedoryshyn and Tyson, 2003). In the main, accounting researchers have examined how the FAC affects beliefs concerning attributes and outcomes associated with the AP and attitudes towards pursuing an accounting major or career (Nelson, 1992; Friedlan, 1995; Caldwell, 1996; Marcheggiani, 1999; Mladenovic, 2000; Fedoryshyn and Tyson, 2003).

This thesis will firstly develop and empirically test a new integrated theoretical framework to predict management students' ACC, and secondly will examine how two types of FAC influence the constructs of an ACC under a holistic approach.

1.2 Aim of the study

The aim of this study is twofold:

1. The first aim is to develop and test an integrated theoretical model linking all the main constructs of an ACC, as these have been identified by previous accounting research, to predict students' intention to pursue a career in the AP.
2. The second aim is to investigate the effect of the FAC on the constructs of an ACC. Specifically, the present study will examine how the FAC affects the main constructs of an ACC and influences students' intention to pursue a career in the AP.

1.2.1 Research questions

The research questions in this study are as follows:

1. What are the important constructs that affect students when it comes to pursuing an accounting career?
2. How do traditional and innovative FACs, respectively, affect these constructs and ultimately affect students' intention to pursue a career in the AP?

1.2.2 Research objectives

To achieve the aims of the study, the following objectives have been defined:

1. To integrate well-established theories about decision making, career choice and research into an ACC in order to develop a new theoretical model of an ACC.
2. To design and develop a valid and reliable survey instrument to measure business students' constructs of an ACC.
3. To evaluate and test the new model of an ACC with a sample of management students at the beginning and end of their first academic semester.
4. To investigate the differences in the model's constructs between students with different intentions to pursue career in the AP.
5. To examine the influence of traditional and innovative FACs on students' constructs of an ACC.

1.3 Significance of the study

Concerns over a perceived drop in the quality of accounting graduates have been widely echoed in recent years (Inman et al., 1989; Albrecht and Sack, 2000; Marriott and Marriott, 2003). The gap between actual and desired quality has been exacerbated by the expanding scope and increasing complexity of the AP (Adams et al., 1994; Fogarty, 1997; Saeman and Crooker, 1999). The resulting human resource dilemma, which

strikes at the core of the AP, has prompted widespread calls for fundamental changes in AE (Albrecht et al., 1994; Neimark, 1996; Nelson, 1996). Increased emphasis is placed on broadening the knowledge base, skills and attitudes towards the AP (AECC, 1992).

Most recent studies have focused on the factors that affect an ACC (Felton et al., 1994; Ahmed et al., 1997; Auyeng and Sands, 1997; Lowe and Simons, 1997); on some of the behavioural constructs of an ACC (Hermanson and Hermanson, 1995; Marriott and Marriott, 2003); on the desired characteristics of accounting students, i.e., on personality traits, skills and prior knowledge of students (Graves et al., 1992; Davidson and Etherington, 1995; Nelson and Vondryk 1996; Kovar et al., 2003); and on the nature of materials used in accounting education, i.e., curriculum, content of accounting courses, teaching methods and texts (Friedlan, 1995; Saudagaran, 1996; Mladenovic, 2000).

Without disputing the importance of such activities, this study expands on the previous literature and addresses three other important issues:

- The need for an integrated approach to the examination of an ACC;
- The effect of a traditional FAC on the constructs of an ACC;
- The effectiveness of information concerning attributes and outcomes associated with the AP, presented by professional accountants in the FAC, as a recruiting tool.

The motivation for this study is to assist in the improvement of business students' cognitive beliefs concerning the AP and thus contributing to attracting a greater number of students into the accounting profession.

The significance of the findings of this study lies in the benefits they offer to the AP, to students and to researchers in this field. The identification of the effects of a traditional and an innovative FAC respectively on the constructs of an integrated theoretical model of an ACC will ensure that future research in this area will be able to use the findings of this study as a stepping stone for further research as well as assisting accounting educators and professionals in the recruitment process.

1.4 Delimitation of scope

The survey research population is delimited to management students in Technological Educational Institutes (ATEI) in Greece. The researcher focused on Business Administration departments since they have a general major closely related to the AP. In

addition, the decision to employ a homogeneous sample was considered against the employment of a heterogeneous sample (i.e., individuals from a variety of departments and universities). In addition, the specific sample, Greek management students in ATEIs, have a lot of other demographic characteristics in common, such as ethnicity, religion, language, culture and social background.

An alternative research population to that employed in the present study would be a diverse sample employing individuals studying in a variety of departments. When students from a variety of departments are employed, the potential confounding of structural factors (i.e., types of universities and departments and the environment in which they are embedded) can be addressed by means of statistical techniques. The advantage of this type of design would lie in terms of greater external validity and generalization of the results. Furthermore, more clear-cut results could be obtained because, most likely, a more heterogeneous sample would be obtained. The more heterogeneous the sample, the greater the likelihood of an existing relationship being identified (Nunnally, 1978). On the other hand, however, it is doubtful that proper control over structural variables relevant to this case could be achieved by means of statistical techniques (Tabachnick and Fidell, 1996; Field, 2000). Hence, the danger of confounding of the results becomes acute. Homogeneous samples allow for the enhancement of internal validity (Nunnally, 1978) but limit the generalizing of findings to management departments of ATEIs in Greece.

To summarize, in the context of the present investigation the confounding of results due to the influence of structural variables is a more serious problem than limiting the external validity of the study. A valid result can be generalized and further substantiated with additional research in other types of schools, departments and countries. However, an erroneous result can lead to false conclusions, hence, to false directions in further research and future practice.

1.5 Structure of study

This thesis comprises ten chapters, followed by list of references and appendices. This chapter, Chapter One, provides an overview of the thesis and the background of the research, aims, questions, objectives and a brief outline of the significance of the study. The remaining chapters of the thesis are organized as follows:

Chapter Two firstly presents the nature of the AP and the fundamental changes in activities, responsibilities and competencies demanded by the AP today. Also, it

provides information about the Greek AP. Lastly, it highlights the important constructs in the accounting recruitment process that accounting researchers have identified as influencing individuals to choose accounting as a career.

Chapter Three continues with a review of the literature, this time focussing on the second part of this study – the effect of a FAC on the constructs of an ACC. On the basis of a review of the relevant literature, the chapter provides some historical background of the AE, the nature of AE and how it affects students' decision to pursue (or not pursue) an accounting career. Furthermore, the chapter presents the educational strategies adopted by accounting researchers to influence some of the constructs of an ACC.

Chapter Four presents the new integrated theoretical framework of an ACC. The new model used in the present study is primarily based on the Theory of Planned Behaviour developed by Ajzen (1988, 1991). Fishbein and Ajzen's (1975) terms, i.e., beliefs, evaluation of beliefs, attitudes, subjective norms, perceived control and intention, are used here in an attempt to construct a general theoretical framework for the study. The Expectancy-Value Model (Fishbein, 1963) is used to conceptualize the attitudes held towards the accounting profession. The Theory of Work Values (Super, 1973, 1981; Ros et al., 1999) helps with the conceptualization and operationalization of specific beliefs concerning attributes and outcomes associated with the AP and their evaluative components. The proposed model integrates and extends these theories with research into an ACC and presents a new theoretical framework for its study.

Chapter Five presents the research methodology, research approach and research methods adopted. The first section of this chapter begins with a justification of the selection of the research paradigm and methodology, followed by a discussion of the overall research process, itself divided into three main stages. This is followed by a discussion of the specific research strategies employed in different stages. This in turn is followed by a description of the setting of the study, the population selected for it, and the data collection procedures employed. Finally, the statistical methods, the theories underlying the statistical analyses used and measurement issues are discussed.

Chapter Six describes the preliminary steps that statisticians advise to be taken to prepare and organize the data collected via questionnaires, and how to proceed to the main analysis and test the hypotheses in subsequent chapters. This is followed by a description of the preparation of the data and the creation of appropriate data bases for statistical analysis. After this, the testing of the internal and external reliability of the data and the validity of the scales applied is discussed. Finally, based on the results of

the reliability and validity tests, the measurement of dependent and independent variables and the computation of final measures will be presented.

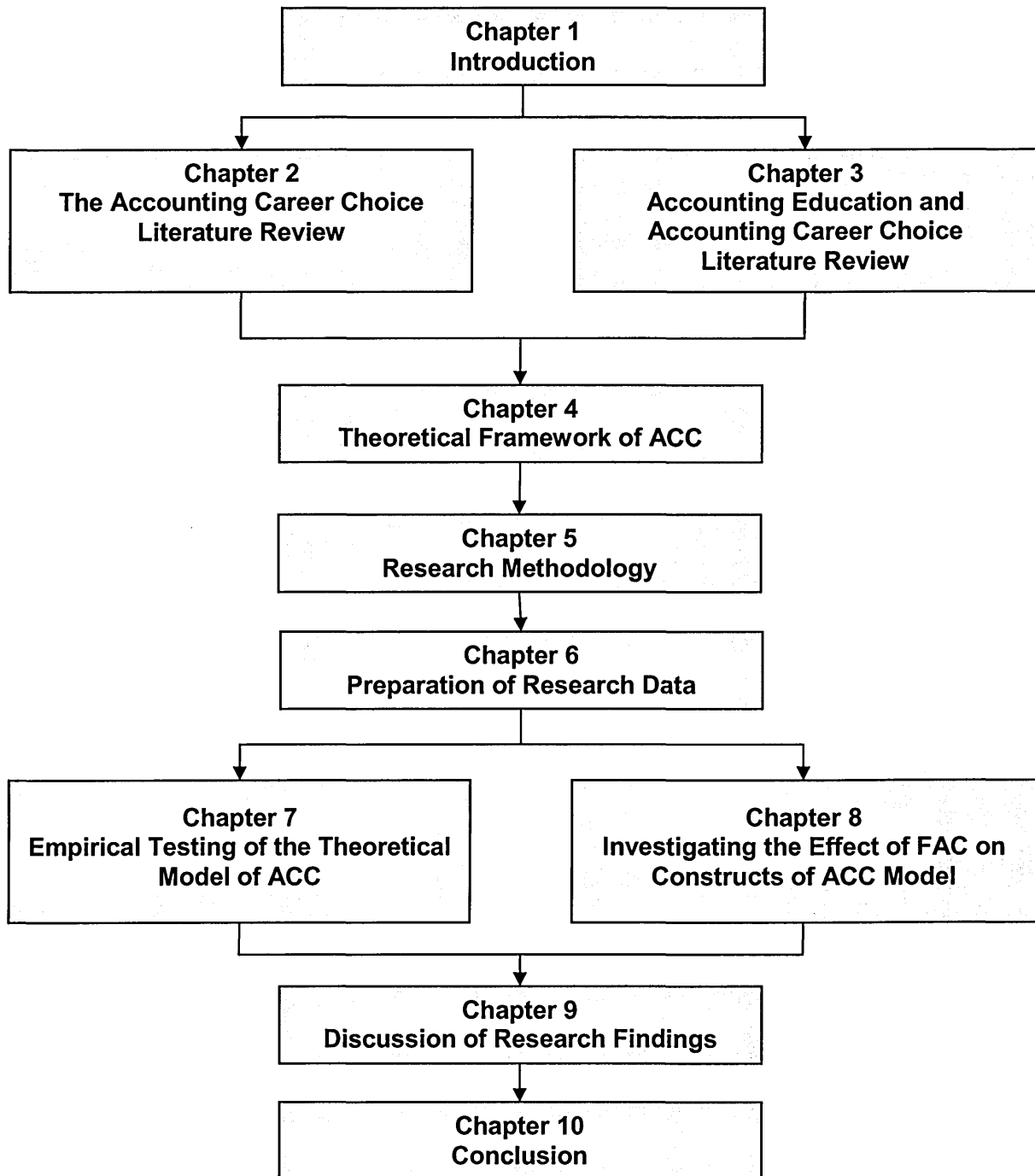
Chapter Seven tests the hypotheses related to the empirical evaluation of the integrated theoretical framework. Multivariate regression analysis is undertaken to test the constructs of an ACC, which the new integrated theoretical framework defines to be the predictors of students' intentions to pursue an accounting career. Further, an ANOVA test will be employed to examine the differences concerning the constructs of an ACC between students with different intentions to pursue the AP. This chapter will show the extent to which the newly developed theoretical model can be used to predict and explain the ACC of business students at the beginning and the end of the first accounting course.

Chapter Eight tests the hypotheses related to the effects of a traditional and an innovative FAC respectively on an ACC. The chapter examines whether a traditional and innovative FAC respectively affect the constructs of an ACC and thus ultimately affect business students' intention to pursue the AP. Further, it tests the effectiveness of innovative courses to recruit students to the AP, changing their cognitive normative, behavioural and self-efficacy beliefs.

Chapter Nine discusses the research findings reported in Chapters Seven and Eight in the context of the adopted integrated theoretical framework of an ACC. Chapter Nine draws on the relationship between the findings and the literature review, and provides a critical discussion of the overall research.

Chapter Ten provides an overview of the study and identifies its contributions to knowledge. Some contributions relate to an ACC, while others relate to the effects of a traditional and an innovative FAC respectively on an ACC. The chapter discusses the limitations of the study and offers suggestions for future research. It concludes with the main findings of the current research. Figure 1.1 shows the overall process and structure of the thesis.

Figure 1.1: Structure of current study



Chapter 2.

THE ACCOUNTING CAREER CHOICE LITERATURE REVIEW

2.1 Introduction

This chapter provides an account of the changing nature of the contemporary accounting profession (AP) internationally and in Greece, which is important in order to provide the foundations for understanding the accounting career choice (ACC). In addition, the chapter reviews the extant literature on the recruitment processes in the AP. It identifies the research area to which the study seeks to contribute, and develop a deeper understanding of it. The literature review identifies limitations in the current literature, thus allowing the current researcher to consider grounds for a study of this kind.

The chapter is divided into five principal sections. After the introduction in Section 2.1, Section 2.2 discusses the emergence and evolution of the AP internationally, followed by a review of the literature on changing activities, competencies and responsibilities of accountants. Section 2.3 discusses issues related to the AP in Greece. Section 2.4 presents the body of current knowledge concerning the accounting recruitment process and the recruitment strategies proposed for the AP. This section also discusses the constructs of an ACC and the time when an accounting career is typically chosen by business, accounting students and accountants. The final section of this chapter, Section 2.5 identifies the grounds that justify the current study, and provides a summary of the chapter.

2.2 The international accounting profession

A desire to understand the processes of change within the AP, and the contribution made to this by broader societal and organizational change, has stimulated a substantial body of historical research into accounting (Napier, 2006). Before beginning a discussion of these topics on the history and evolution of the AP, it should be noted that the description is based mainly on accounts written in English, and thus deals with the history of accounting in English-speaking countries. This is not to denigrate the contribution made to the evolution of the accounting profession by other traditions and

in other countries, but the problem posed by the availability of literature in a language the researcher could read could not be solved in any other way.

2.2.1 The emergence and development of the accounting profession

Over the past years, a number of researchers (such as Hongren and Harrison, 1989; Carruthers and Espeland, 1991; Miller and Napier, 1993; Ballas, 1994; Previts and Merino, 1998) have investigated the emergence of the AP. Most of these studies have connected the emergence of an official documented accounting profession with the origin of double entry bookkeeping by Pacioli's Summa in 1494 (cf. Previts and Merino, 1998). Double-entry bookkeeping, the most sophisticated form of accounting, was a much simpler affair than the term connotes today. Double entry bookkeeping between 1450 and 1850 involved the recording of cash incomings and outgoings, and the listing of debtors (those who owed one money) and creditors (those to whom one owed money). The complexities of cost allocations, and profit and loss accounts, were not a feature of this early method of bookkeeping (Hines, 1989).

The evolution of the AP has been an issue of considerable debate in the accounting literature (Sivakumar and Asheq, 2000). Different theoretical approaches developed in sociology have been used to explain the development of accounting and the accounting profession. A structural-functionalist approach was dominant in the literature until recently (Wilensky, 1964; Carey, 1969; Buckley and Buckley, 1974). Traditionalist accounting historians assert that developments in accounting can be and need to be explained by reference to changes in the economic environment. Critical historian accountants (Hoskin and Macve, 1986; Carruthers and Espeland, 1991; Miller and Napier, 1993) have rejected the functionalist approach. In the last quarter of a century new ways of understanding the history of the AP have developed, with the central concern having been to wrest its history away from purely technical descriptions and move it towards behavioural, social and contextual approaches (Willmott, 1986; Kedslie, 1990; Manicas, 1993; Arrington and Francis, 1993). Many practitioners of the "new accounting history" would claim that their approach is to regard accounting as predominantly a cultural phenomenon rather than a technique or tool whose characteristics are neutral if not benign (Carnegie and Napier, 1996).

Despite the debates on the origin and the role of accounting, the view of accounting as a social instrument, as a device that enables humans to better comprehend and control the work of business, has made it a symbol of rational utility in an ever more complex world. Accounting using the double-entry technique became a necessary

condition for forming increasingly large amounts of capital for ventures and later, for administrative entities and control of these entities' activities and costs. Seen in a larger context, along with time management and broader skills in literacy and mathematics, accounting enabled business people to quantify, summarize and interpret the abstract processes of business that was evidenced by transactions and captured within the double-entry system (Previts and Merino, 1998).

Historians of individual professions support the view that the nineteenth century saw the development of the professions as we know them today (Larson, 1977; Abbot, 1988). Accounting historians have examined and revealed the extraordinary expansion of the accounting profession in industrial economies; the colonization of new forms of work; the construction and reconstruction of its knowledge base; inter-organizational politics and status seeking; and the locating of the AP on the profession-commercial divide in the class structure of society (Briloff, 1985; Lee, 1995; Walker, 1995; Carnegie and Edwards, 2001b). The economic and organizational changes of the Industrial Revolution were the main reason for the professionalization of accountants (Kedslie, 1990; Miranti, 1990). "It was the burgeoning of the industrial revolution that created the demand for accountants....The new work was much more capital intensive than the craft work shops that preceded them and in many cases the investment needed was too large for an individual or a small group. These new companies needed more sophisticated bookkeeping and also since numbers of shareholders were involved, an independent audit" (ICAEW, 1966, p.8).

Brown (1905a) reported that the first professional society of accountants (Society of Accountants in Edinburgh, SAE) was brought into being in Edinburgh in 1853, by a small number (61) of eighteenth century accountants, (cf. Carnegie and Napier, 1996). Brown stated that accountants needed to form a body to ensure that their legal and actuarial work was completed by appropriately qualified individuals for the benefit of the public. Brown didn't give any explanations for the professionalization of accounting in Scotland, but other historians of accounting support the view that a catalyst was a proposed change in bankruptcy law, which would have allowed lawyers to undertake work then dominated by Scottish accountants (Parker, 1986; Walker, 1988; Kedslie, 1990). The first Scottish accountants are perceived as reacting to protect their economic self-interest from other professionals (Brown, 1905a). They are described as organizing to form institutions which justified the term profession, as had done other, previously established bodies in other areas, such as law and medicine (Walker, 1988; Kedslie, 1990). Walker (1988) and Kedslie (1990) also provide evidence of the strengthening of

the Scottish professionalization process by stipulating entry, education and examination requirements.

A different pattern of the professional accountant emerged in the USA in the late 1880s, which reflected the country's economic and social conditions between 1870 and 1900. This period witnessed population expansion, industrialization, railroad competition, an agriculture boom and decline, population drifts from country to city and the emergence of a professional middle class. Opportunities for investment by UK companies and individuals opened the way for a significant influx of experienced Scottish and English chartered accountants (Lee, 1995). They quickly organized as firms of accountants and sought the professional credibility to which they were accustomed in the UK. They found no institutionalized bodies in the USA devoted to public accountancy, and began to form institutions similar to those of the Scottish and English chartered accountants. In 1882 the Institute of Accounts was the first US body of professional accountants. The Institute was open to all professional accountants and its main function was the education of accountants. By the beginning of the twentieth century, the accounting profession worldwide had laid its institutional foundations and established a relationship with the state (Carnegie and Napier, 1996).

One of the most characteristic features of the accountancy profession in most countries is the malleability of its occupational boundaries (Matthews, 1998; Parker, 2001; Fogarty et. al., 2004). This has enabled accountants to compete for new jurisdictions whenever such opportunities have arisen (Walker, 1999). Parker (1984) noted that the exponential growth in membership of British professional accounting bodies during the 20th century was due to the growing calls for services from creditors, shareholders, managers and taxpayers.

Lee (1995) argued that the early AP extended its range of services when economic opportunities arose. Previts (1985) supports the view that the American accounting profession was split between those who proactively advocated the expansion of the range of accounting services (particularly in the business advisory area) in response to market demands and more conservative elements who wanted the AP to be 'confirmed in legislation' before embarking upon an expanded range of practices. In the USA, UK, Canada and Australia, despite the diversity of experiences in different socio-political and cultural context (Maltby, 1999; McMillan, 1999), accountants have expanded their range of accounting services, and entered new fields of work providing strategic management services, assurance services, investment advice and all kinds of consulting

(Stevens, 1981; Willmott, 1986). In addition, they have achieved positions of power, status and authority and have advanced their professionalization (Hines, 1989).

Accounting serves a number of different purposes relevant to business activity. From the earliest days of the profession in 1850, the information produced by the accounting system created an improved co-ordination of companies' operations and was used as an aid to strategic decision making (Boyns and Edwards, 1996). By the 1910s, accounting services included the installation of factory cost systems, studies of organizational efficiency, investigations in connection with possible investments in other businesses and an array of other services to management (Previts and Merino, 1998). Arnold and Hope (1983) defined the three dynamic and inter-related areas of business in which accounting plays an important role: decision making, planning and management control. Many researchers from different countries provide evidence of the role and different activities of accountants during the industrial age and until the information age today. Kedslie (1990) examined how Scottish accountants developed a menu of services beyond those existing at the time of the foundation of the first professional society of accountants (SAE), including accounting and auditing for commercial entities and municipalities. Littleton (1993) indicated auditing and cost accounting as major areas of accounting work leading to the expansion. Hussey (1995) described accounting as "the technique used to collect, process and present financial and quantitative data within an organization to enable effective scorekeeping, cost control, planning, pricing and decision making to take place" (p.5). Matthews (1998) illuminated the historically important role that British accountants have played in British management. He emphasized the variety and depth of the professionally trained British accountant's contribution to business management generally. Matthews also provided evidence that professionally qualified accountants have played an important role historically in management. He argued that in training and experience the accountant was not merely qualified in financial matters, which is the common image of the profession, but ranging from their vantage point in practice through to their complete involvement as entrepreneur, they were well prepared for an active role in general management. More recently, Parker's study (2001) revealed that the expansion in the scope of accounting services continued throughout the 20th century. Holtzman (2004) also demonstrated the continuous evolution of the accounting profession during the 20th century.

2.2.2 The information age and the accounting profession

Although the accounting scholars' opinions may differ on some of their specific predictions about how the AP will be transformed over the next years, there has been a general agreement that as the new century and millennium get underway, changes in the accounting professions' practices will not only be major in a structural sense, but also that those changes will occur at a quicker rate than before (IMA, 1999; Albrecht and Sack, 2000; Howieson, 2003). Many researchers have identified information technology, globalization and the changing economic environment as the major influences that have accelerated the changes in the AP (Albrecht and Sack, 2000; Olivier, 2000; Parker, 2001; Holtzman, 2004).

The rise of information technology has changed the global economy from an industrial to a service-based economy and also the way in which business is conducted. Technology has provided many tools that increase efficiency in most businesses (Jordan, 1999; Olivier, 2000). Technology has made information preparation, communication and access to needed data inexpensive, and also quickly and easily available to individuals. It has made preparing and disseminating financial information so inexpensive that anyone with the right software can produce basic data.

The massive development of information technology has affected the accounting profession, has minimized the time required for traditional accounting jobs – such as bookkeeping, taxation and auditing – and has created the need for the AP's expansion into new business activities with a broader scope (Olivier, 2000; Holtzman, 2004). Computers with the right accounting software complete routine accounting work (bookkeeping) once performed manually by accountants and few entry level accounting positions will be needed as these responsibilities are taken over by computers and lower-level employees, who are not accountants. Traditional paper-based financial reporting is becoming increasingly less timely and thus less useful to decision-makers (Koreto, 1997; Lymer, 1999; Lymer et al., 1999). Computers help accountants in both auditing and decision making concerning tax and generate reports for those needing the information, with much of the preparatory work in financial statement audits eliminated by automated work papers, thereby 'freeing up' accountants for more advisory, finance and decision-making roles (Jordan, 1999, Parker, 2001; Elliot and Jacobson, 2002).

The globalization of the economy is another important factor that has altered the way that business is conducted. "Globalization is a child of communication technologies" (Olivier, 2000). Giddens (1990) stated that "globalisation is a process of

increasing interconnectedness between societies in a dialectical fashion such that events in one part of the world more and more have effects on peoples and societies far away and vice versa". Hirst, (1992), argued that "globalisation affects every aspect of economic life, politics, culture and society". Within the last three decades, with the development of information technology and communication, the transformation of national business to global business independence has become a reality (Holtzman, 2004). A result of the acceleration of globalization is the number of emerging new free-market global enterprises at both national and international levels. Global and local economies are changing rapidly. This combined with intense competition and levels of independence means that executive decisions are increasingly important and must be made quickly. More work is being undertaken by flexible contract arrangements, with workers shifting between organizations and countries more frequently and consultancy becoming a more commonly offered service by individuals, as well as small and large firms (Parker, 2001).

Hence, globalization is another important factor that has altered business and created pressures on the accounting profession. Capital and information are seen moving across national borders and small to medium size enterprises are engaged in export and joint international ventures (Parker, 2001). Location is becoming increasingly irrelevant and accounting work is becoming increasingly multidisciplinary (ICAEW, 1997; Simister et al., 1998). The AP is a necessary condition for industrial development and a globally competitive industrial performance. Auditors perform audits and give advice on mergers and acquisitions of international businesses and must be knowledgeable of the laws and practices of other countries. Accountants must also be aware of these issues as well as the customs and business environment of the countries in which their companies do business. The accounting profession is also heavily implicated in the globalization of industry. Accounting itself is probably the prime exemplar of service sector globalization. International accounting firms are global suppliers of a wide range of professional and financial services (Walker, 2004).

The economic and business environment has undergone massive changes in the last thirty years. A more complex regulatory framework, mass production, increasing competition, saturation of the audit service market and the emergence of investment powerhouses and individual global investors all require a real-time flow of relevant financial information and accountability of publicly-held companies, and these have introduced new dimensions into the contemporary business environment (Albrecht and Sack, 2000; Olivier, 2000; Parker, 2001; Holtzman, 2004). In particular, clients of

accountants and accounting firms place much less value on traditional accounting, tax and audit services; instead, they evaluate product and services via more sophisticated performance indicators rather than simply relying on traditional financial measures (AICPA, 1988a; Simister et al., 1998; Albrecht and Sack, 2000). Therefore, the thorough analysis and evaluation of each company's financial information and economic position in today's complex environment requires the development of an updated and critical global perspective of business knowledge and accountability as well as new and improved social disclosure standards so as to ensure the appropriate balance and growth of the global economy. Added to this there is increasing accountability in social and political life (Fogarty, 1997; Walker, 2004; Williams, 2004). Taxpayers, voters and consumers of goods and services are all stakeholders who demand accountability from those whose actions affect their lives.

All of the above major factors are interrelated and, to a large extent, have affected the business environment, and have contributed in creating a different structure of organizations and an enormous competitive pressure on businesses and thus require new forms of personal competences and skills in all business professions. The change-drivers have a profound effect on the contemporary AP and those entering the accounting profession today (Albrecht and Sack, 2000; Parker, 2001).

2.2.3 Future professional accountants

While traditional accounting compliance work (bookkeeping, taxation and auditing) persist in its importance to the AP, the above mentioned factors yield opportunities and challenges for accountants and have created the need for diversity in the profession. Change in the profession is ongoing and accelerating. Less time is being spent in traditional roles because technology has automated many time-consuming tasks. Instead, accountants are spending increasing amounts of time in new roles as internal consultants, analysts and valued business partners (IMA, 1994). The new accountant is one who is working in cross-functional teams and becoming more heavily involved in strategic planning and business decision making (Howieson, 2003). Over the last years there has been much discussion about the need for accountants to become more forward-looking and less backward-looking. This involves the accountant moving from being a "number cruncher" to a business and financial strategist and from a cost-oriented scorekeeper to a market-oriented business partner (Phillips, 1998; Grundy, 2000). With a new business environment and more self-reliant clients who are focused

on their business activities, accounting practices will have to become more multi-disciplinary (Keeva, 1998; Russell and Siegel, 1999; Howieson, 2003).

All the changes in the economic and business environment suggest that the major “products” of the early 21st century may not be physical goods or even many existing services but rather knowledge and the ability to manage knowledge. If knowledge is the commodity of the future, then accountants are ideally placed to seize the opportunity to be the main player in this commodity (Elliot and Jacobson, 2002; Howieson, 2003). Accounting has always been an information system designed to collect, analyse and disseminate knowledge in a way that is useful to various decision makers. Accountants have a competitive advantage in knowledge management relative to many other professionals because they tend to understand the interrelationships between different segments of a business (ICAA, 2001, p.8). Accounting is a professional service activity concerned with the provision and analysis of information for a variety of decision making, managerial, regulatory and resource allocation purposes (Walker, 2004). This definition recognises that accounting is but one form of information, and it recognises that accounting information is used for a variety of purposes.

In a world of intense competition accountants will need to effectively position themselves as the gurus of knowledge management by thinking globally and in a way that provides clients with value added services (AICPA, 2000a). The opportunity for the future accountant is to add value to the client/employer by analysing and interpreting accounting information and providing management advisory services and consultancy for appropriate courses of action (Albrecht and Sack, 2000; Howieson, 2003). A growing number of studies have identified the expanding array of business activities where accountants and other business professionals have been involved (see Charles, 1995; IMA, 1999; Albrecht and Sack, 2000; Parker, 2001; Messmer, 2001; Howieson, 2003). Albrecht and Sack (2000) and Parker (2001) have suggested that the important emerging accounting and business activities in the new millennium are management consulting services, strategic management and advice, knowledge management, risk management, environmental management, expanded assurance services, business planning, registered investment, advisory services, personal financial planning and business valuation.

The new emerging business and accounting services have a profound effect on the knowledge and skills employers are looking for in potential accountants (Wilder and Stocks, 2004). Accountants are constantly being reminded that the profession has changed, that the old rules do not apply anymore, and that they need a new skill set if

they want to succeed as visionaries, strategists and technical experts (Albrecht and Sack, 2000; Williams, 2001). Analysing and evaluating each company's financial information and offering business consultancy services in today's complex environment requires a wider range of knowledge, skills and abilities than the traditional basic accounting competence. It requires a new professional accountant that, while well-trained in financial and management accounting techniques, has a wider understanding of the global business environment and needs, and who is able to identify correctly the problems and information that is necessary in different business settings.

Albrecht and Sack (2000) have supported the idea that accountants need to develop the requested skill competencies and adapt quickly to the demands of the changing job description of what is an accounting professional. Recent changes in the business environment have driven the profession to re-examine the fundamental competencies necessary to be successful. Various organizations have recently performed competency assessments studies (Kullberg et al., 1989; AECC, 1990; IMA, 1994, 1996, 1999; IFAC, 1998, 2003; AICPA, 1999b). Competency studies are outcome-based in terms of accountants' abilities to perform professional services and responsibilities, based on knowledge and skills (Palmer et al., 2004). Their results had a number of commonalities. The knowledge, skills and abilities (KSAs) that were found to be important for the competency of accountants were: general business knowledge, communication skills, interpersonal skills, problem solving-skills, accounting knowledge, information technology and computer skills, personal attitudes and capabilities (Palmer et al., 2004). Furthermore, accounting researchers (see Novin and Pearson, 1989; Deppe et al., 1991; Ahadiat and Smith, 1994; Morgan, 1997; Arquero et al., 2001) have surveyed employers of accountants, certified public accountants, management accountants, governmental accountants and accounting educators to identify the knowledge, skills and abilities desired of new accountants. By a large majority, the accounting professionals surveyed identified communication skills, computer skills and general business background as vital for the AP. All the above studies appear to show the need for accountants to have a generalist business background, and new and broader business skills. These changes seem to recast the accountant as a generalist member of an organization team rather than a specialist with a specific body of knowledge.

Recently another important issue has attracted considerable interest in professional accounting practices, namely the social responsibility of accountants. Accounting scandals such as Enron, WorldCom, Parmalat and others worldwide have

severely damaged public perceptions of accountants. Various trust and competency issues have arisen regarding accountants. In the name of public benefit, regulators across the globe have stepped up their scrutiny of the AP and this has led to new laws being passed (most notably the Sarbanes-Oxley Act in the United States) and new auditing standards being set. Cooper and Sherer (1984), Chua (1986), Willmott (1993) and Walker (2004) have stressed the significance of accounting as a technology for social and organizational control. The fundamental responsibility and the primary concern of accountants must be to protect investors, creditors and personnel from being misled by financial statements that embrace unacceptable accounting practices and inadequate disclosures (Wyatt, 2004). Future accountants should appreciate the importance of ethical behaviour in business and understand their role in achieving an appropriate level of social responsibility.

2.3 The Greek accounting profession

The AP in Greece emerged one hundred years later than the Anglo-Saxon ones and has followed a distinctly different pattern of development which sets it apart from the paths of development of the AP in Western countries (Tournai and Kapadaidakis, 2006). This is mostly due to the relatively late emergence (1920s) of advanced economic and industrial structures in Greece, with the influx of Western capital, especially its investment in the development of the Greek railways, and in the form of government loans.

2.3.1 The emergence of the Greek accounting profession

After gaining independence from Ottoman rule in 1835, the first Greek Commercial Code, a direct translation of the French Commercial Code, was adopted to regulate the practices of business and economic activity in Greece. One hundred years later, the Greek Parliament passed the Act 2190/1920, introducing the Anonymi Etairia (A.E.) legal form of ownership structure, which became the most important legal form of large corporations in the Greek economic and business environment. The establishment of the A.E. ownership structure came as a direct result of the realization that A.E. corporate structures are better able to accommodate economic growth and, at the same time, fulfil their tax obligations due to the more transparent manner of their operations relative to the then existing ownership structures.

The origin of the documented AP in Greece is related to the introduction of this form of ownership since the law that established the A.E. (Act 2190/20; article 3) also required that companies' financial statements must be approved at the annual shareholders' meeting but first need to be audited by at least two auditors. However, despite the fact that large companies were required to employ accountants, the limited industrial development in Greece, and thus the limited number of large companies at that time, meant that accounting and auditing did not develop into an important practice within the existing economic and business environment at the time.

In 1947, after World War II, the first Code of Books and Records KBS (FEK 272/1947) was introduced to regulate the practice of accounting in Greece. This Code (or tax law) compelled companies, large or small, to keep accounting books. The Code introduced four classes of accounting books, each intended for different types of companies or organizations as measured by their size or turnover. One class of accounting books was intended expressly for the larger private sector corporations (A.E.) and organizations, based on their annual turnover. The other classes of accounting books were to be maintained by smaller firms, including self-employed professionals, etc. Smaller businesses were obliged by the Greek Tax Law (KBS) to keep accounting books. In addition, larger firms were obliged to keep accounting books according to the double-entry method of bookkeeping. Companies started keeping accounting books mainly to comply with the tax regulations, but some companies started using accounting information for decision making. These new tax regulations created for the first time the need for most Greek businesses to employ accountants in significant numbers.

Between 1947 and 1956 several minor modifications were made to the KBS (Decree 578/1948, Decree 25/1952, Decree 116/1956). In 1955, the Act 3195/55 introduced another important form of ownership structure, the Limited Liability Company or Etairia Periorismenis Eftynis (EPE). Additionally, the Act 329/55 legally established the Society of Sworn Accountants or Soma Orkoton Logiston (SOL). Auditors' primary responsibility was to audit and approve the financial statements of large private corporations (A.E.). The Act required that the auditors' qualifications included at least eleven years of experience in SOL, and to have passed very challenging examinations. Members of SOL enjoyed very high social status (Ballas, 1994). During the same period, in 1956, another accounting body was established, the Federation of Greek Accountants (POL). The Federation was a rather strong trade union of accountants, and POL membership never exceeded twenty per cent of Greek

accountants, and, currently, its membership is comprised mostly of accountants without qualifications recognised by the state.

Until the late 1950s, the agricultural sector continued to constitute the largest share of the Gross National Product (Vaitsos and Yannitsis, 1992). In the early 1960s foreign capital inflows reached significant levels in Greece. The inflows took the form of foreign aid for the restructuring of the Greek economy after the effects of World War II and the four years of Civil War following WW II. Mainly through the Marshal Plan, capital was invested directly in industry or through large American multi-national companies (Tsoukalas, 1987). The first year in which the contribution by the industrial sector to GNP exceeded that of agriculture was 1962, and by the middle sixties the industrialization of Greece was well under way (Mouzelis, 1978).

As the economic development of Greece was gathering pace, new business and tax laws were introduced (Decree 238/1967, Decree 4/1968, Decree 406/1974, Presidential Decree 99/1977), further affecting the conduct of accounting practice, often by introducing new and more complex requirements. The most influential decree governing the accounting practice of Greek companies, and which has changed the role of the Greek accounting profession, was the Greek General Accounting Plan (EGLS). Efforts to prepare and pass the Accounting Plan spanned almost three decades (Ballas, 1994). In September 1981 the full text of the Greek Accounting Plan was made public. The purpose of the General Accounting Plan was stated to be

a common mechanism and a common language for communication not only between the administrators and the administered, but between the economic organizations and the trade unions, as well....But its positive effects go far beyond the national borders; with its development we aspire to contribute to the economic unity of Europe by ensuring the possibility of reliable comparisons at the European level. (EGLS 1981, p.14-15)

The Hellenic General Accounting Plan (EGLS) was enacted by Presidential Decree in 1980 but was not fully implemented until 1990. Initially, only parts of the Greek Plan relating to financial reporting were compulsory. Act 1882/90 made the entire Accounting Plan compulsory for companies audited by members of SOL, effective 1st January 1991. The full implementation of the General Accounting Plan by Greek companies has resulted in greatly reducing arbitrariness in accounting practices, creating effective communication between firms and state authorities, and enforcing valid and reliable business account disclosure. In 1992, with the Presidential Decree 186/92, the Accounting Plan was made compulsory for all companies with a turnover of at least 1,000 000 Euros annually, irrespectively of their legal form.

The employment patterns of Greek accountants are diverse. Accountants are employed by large and small companies in different industries and by government, which maintains large and well-organized accounting departments. Some accountants manage their own accounting office, keep the books of small and medium-sized businesses and sign their annual reports as independent practitioners. Accountants in salaried employment with a particular company often maintain their own independent accounting office.

The formal AE system in Greece has and still does exist at two different levels: (1) The Senior High Schools and Vocational Training Institutes (IEK) allow individuals to become non-qualified accountants, and (2) the higher education system allows individuals to become qualified accountants by studying at, and graduating from, a university or one of the ATEIs' business or economics departments. At an informal level, there have been a number of private schools offering vocational courses for non-qualified accountants. Before 1991, according to the Collective Labour Bargaining, qualified accountants were promoted after three to five years' of experience in accounting, whereas non-qualified accountants only after ten to seventeen years, depending on their other educational qualifications. Before 1991, both qualified and non-qualified accountants could be promoted to the upper category of the AP.

Therefore, despite rapid economic expansion and development occurring in the Greek business environment, the AP was still an "open access" profession until 1991. No specific laws had been introduced requiring educational qualifications, professional exams or certifications to practice as accountants. Greek accountants did not need to have any specific educational qualification – anyone could be an accountant, irrespective of the level of his or her education. The Greek state in 1991 introduced reforms to the Greek AP through the establishment of the Chamber of Economics of Greece (OEE). These attempts at reforming the AP have been one of the most controversial issues among Greek accountants.

2.3.2 The Greek accounting profession after 1990

This is perhaps the most important period in the process of establishing accountancy as a profession. The OEE, established by Act 1100/1980, initially was limited to providing advice to the Greek government on economic issues (it included mostly business and economics related occupations).

The expansion of the role and jurisdictions of the OEE to undertake the regulation of issues related to the practice of economics occupations was sanctioned by

Presidential Decree 475/1991 (based on article 3, paragraph 6 of Act 1100/1980), which has the title “About the occupation of Economists and its licensure”. Through the inclusion of the accounting and tax-accounting professions with business and commerce occupations (Article 1, paragraphs 2, 4, 5 and 7 of P.D. 475/1991) accountancy now came under the jurisdiction of the OEE. All accountants are obliged by law to register with the OEE. It was officially given the right to grant licences to qualified and non-qualified accountants for the practice of all classes of accounting books. Therefore, practising accounting now presupposes having a licence issued by the OEE (P.D. 475/1991).

The Act 2515/1997 “Practices of the Profession of Accountant/Tax Consultant, Functions of Audits and other Provisions” was passed by the Greek Parliament for the purpose of further regulating the Greek accounting profession. According to this Act, accountants and tax consultants are classified in four categories A, B, C and D on the basis of their respective educational qualifications and years of work experience (article 1). Class D encompasses accounting practitioners who lack a higher education degree. Classes C and B encompasses graduates of economics and business departments of universities and ATEIs, provided they meet a variety of requirements such as examinations and work experience. Class A encompasses graduates of economics and business departments of universities and of graduates of accounting departments of ATEIs, provided they meet a variety of requirements such as examinations and work experience (Act 2515/1997). By this final Act, the Greek AP moved from generic practice identification to building a profession based on specific requirements and accreditations. Furthermore, this Act helped in differentiating between those who possessed certain accounting skills and those who did not. This stage is signified by the efforts of state-qualified accountants to monopolize access to the profession by isolating and downgrading non-state qualified professionals.

Very recently, in 2006, by Act 3470/2006 (article 17), in order to qualify as accountant for categories A, B and C qualified accountants were required to attend specific professional seminars related to the practice of accountancy and to pass written and oral examinations held by the OEE.

No studies have been carried out (or even reference made to) into the expanded roles for accountants or their movement into other business functions, especially finance and management consulting. Only one study has been carried out which provides information about some aspects of the AP, initiated by the OEE in 1991. This study into “The mobility of occupations related to economics in the labour market and the need for

the establishment of a training centre” was published in November 1993. The aim of this investigation was to provide the OEE with an overview of different specializations related to commerce professions at the executive level of private companies. The sample of this nationwide survey comprised two groups of respondents (employers and executives) from 206 large and very large companies in industry, both manufacturing and services. The survey identified the following four distinct specializations of accountants:

- Accountant/Taxation Specialist
- Management Accountant
- Internal Auditor
- Financial Director

The survey results indicate that the practice of accountancy in Greece seems to have been associated most commonly with the subject of bookkeeping, cost, tax advice and auditing. But, remarkably, the Chamber’s research indicates that both sample groups agreed that the specialization of accounting/taxation was in relative decline and other accounting-based specializations were growing fast.

The historical analysis of the Greek AP has shown that it has different origins and development from the origins of the profession in advanced capitalistic economies. In Greece, the variety of jobs and tasks that accountants carry out are contingent upon the structural characteristics of the economy and are under the supervision of the state and trade associations, and governed by regulations imposed by them. The Greek state and the OEE have played a significant role in shaping the profession’s development. Its emergence and development were not just the direct result of the needs of markets or of the profession itself but, rather disproportionately, driven by the Greek state’s need to establish its authority and provide transparency in business operations and limit tax evasion. Today the Greek AP, operating under OEE regulations, is effectively a group of “qualified” accountants which has been able to gain control of an occupation and to create privileges and exclusive arrangements for its members by excluding “non-qualified” accountants from the market of accounting professionals.

2.4 Recruitment into the accounting profession

While every profession is concerned with recruitment to the profession, the AP has had a long and active concern with the recruitment of “the best and the brightest”. For years,

the accounting society has agonized over the quality and quantity of accounting graduates (Nelson, 1995; Albrecht and Sack, 2000; IMA, 2000).

During the 1950s and continuing into the mid-1970s, the AP enjoyed an increasing level of prestige within the business community (Nelson, 1995). Accounting was seen by students as the most lucrative major compared with educational programs such as finance, management and marketing (Collins, 1987). Previts and Merino (1979), Collins (1987) and Langenderfer (1987) argued that accounting became a highly respected major and the best students were attracted to accounting programs. Nelson (1995) supported this view, saying that at this time the AP was able to choose accountants from a large pool of well-qualified graduates.

In recent decades, declining enrolments in accounting departments and changes in the AP have dramatically affected the quality and quantity of new accountants and this has raised concerns (Collins, 1987; Nelson, 1989b; IMA, 2000). Both the quantity and quality of the supply of new accounting graduates are of concern to the AP (Garner and Dombrowski, 1997; Vangermeersch and Craig, 2000). In 1990, the shortage of accounting graduates was stressed by The Recruitment Trends Study Group, ICAEW, when it reported that, "There is a recruitment crisis looming over our profession which will have profound effects on the management and profitability of accountancy practices of all sizes". (quoted in Wilson and Mason, 1995, p. 2). In 1988 similar concerns were expressed by the Canadian Institute of Chartered Accountants, which set up a task force to assess the attractiveness of the profession. The large US accounting firms worried about the short supply of talented graduates willing to choose a career in public accounting (Arthur Andersen and Co et al., 1989).

As the decline of accounting students has continued over the following decade, a joint project of the American Accounting Association (AAA), the American Institute of Certified Public Accountants (AICPA), the Institute of Management Accountants (IMA) and the Big Five was initiated to investigate the causes of this decline. Several reasons have been cited as possible contributors to the downward trend in accounting enrolment, such as lower starting salaries than offered to other business majors, more attractive career alternatives being available to students than in the past, a willingness to choose risky majors and a lack of information and misinformation about what accounting is and what accountants do (Albrecht and Sack, 2000). According to IMA (2000), the lack of information is caused by three reasons: (1) misunderstanding of what accounting careers are like by high school teachers, counsellors and others; (2) bad definitions of what accounting is and the kinds of skills it takes to have a successful career as an

accountant; and (3) high school accounting courses and introductory accounting courses that give students the impression that accounting and bookkeeping are the same, that accounting is a narrow field and that accountants are only scorekeepers.

Therefore, attracting students to accounting academic programs and to the AP has become more and more difficult. One way to attract students to accounting is to place more emphasis on recruitment (Mauldin et al., 2000). The need to strengthen the AP by making a special effort to recruit capable individuals has been recognized by practicing accounting professionals and their professional bodies for many years (AICPA, 1986, 1998a). Accounting educators also have identified the need to pay more attention to recruitment processes and attract students with diverse personalities, skills and values (Federation of Schools of Accountancy (FSA), 1991; AICPA, 1998a).

2.4.1 Strategies for recruiting students into the accounting profession

Today, as the decline in enrolments in accounting programs has continued, a major issue facing the AP is the difficulty of attracting the “best and brightest” students into the accounting discipline (Hermanson et. al., 1996; Albrecht and Sack 2000). The accounting community has stressed the importance of students’ recruitment into the AP and has tried to identify effective marketing approaches to ensure the “best and the brightest” continue to enter the profession (AICPA, 1991a).

Accounting researchers have suggested different strategies for effective recruitment into the AP (Hermanson et. al., 1996; Nelson, 1997; Garner and Dombrowski, 1997; Nelson et al., 1998). Most of the accounting studies have emphasized the role of AE (Albrecht and Sack, 2000; Mauldin et al., 2000; Marriott and Marriott, 2003).

Russell E. Palmer, Dean of the Wharton School of the University of Pennsylvania has supported the view that the accounting community should mount a campaign to educate business students about the sophistication of services accountants perform for companies and the non-profit sector (cf. Collins, 1987). The profession needs to reach students in universities and high schools in substantive, meaningful ways. Top partners and outstanding young staff need to spend even more time on the campuses of major universities convincing students of the profession’s values. Further, he suggested the following specific steps that the accounting community can take to bring more qualified business students into the profession:

- Bring prominent executives of top firms into the classroom for lectures.

- Be sure students are informed about accounting internships programs.
- Broaden the accounting students' education by providing more of a general business background.
- Fund more fellowships.
- Recruit more students for executive type programs.
- In general, strengthen relations between the AP and academia.

Craig and Craig (1992) presented the recruiting strategy adopted at Illinois University to attract qualified students into accounting. The main steps of this attempt were: (1) the chairperson sends letters to students in their first accounting course; (2) the chairperson sends letters to high schools and 2-year college students previously attended by Illinois graduates passing the CPA exam; (3) high quality departmental brochures; (4) top accounting students speak at high schools and 2-year colleges; (5) putting the "best" instructors in the first accounting classes; (6) offering an Honours Section in first accounting courses; and (7) organize an Accounting Careers' Night.

In a survey of accounting department chairpersons of all 4-year schools in the U.S., Hermanson et al. (1996) explored issues such as chairpersons' views of the ease or difficulty of attracting top students into accounting; specific student recruitment strategies which were believed to be effective and ineffective respectively; recruitment strategies that schools are planning to use in the future; and effective recruitment strategies used by other academic departments. Hermanson et al. (1996) recommended that the most successful strategies are to: (1) contact prospective students early; (2) involve high school counsellors in interesting, informative activities on campus; (3) involve top accounting students in informative sessions; (4) involve outgoing, personable faculty who will provide valuable information about the curriculum, expectations, career paths and the job market to these prospective students; (5) have the best full-time professors teach the first-year accounting courses; and (6) invite speakers from the business community to address classes, especially in the first-year accounting courses.

Garner and Dombrowski (1997) conducted a study to document the current baseline of recruiting activities by university accounting programs and state CPA societies. They supported the view that both academics and practitioners consider active recruiting of quality students as very important for the future of the AP. Practitioners generally consider active recruiting of quality students to be far more important than do their academic counterparts. They found that accounting educators considered the

recruiting activity with the highest reported participation and of the highest perceived importance was to target the best non-accounting students in the two accounting introductory courses. They concluded that accounting educators are aware of the need to work with practitioners to define the problem of the recruitment of capable individuals and jointly identify and make the changes necessary to ensure that future accounting professionals are the best and the brightest.

Barsky and Catanach (2001) presented a survival strategy model for accounting program directors and academics. They suggested that a comprehensive approach, for both students and their parents, must address four key issues affecting their perceptions of accounting: (1) the changing role of the profession; (2) the impact of the changes taking place in the profession on AE; (3) management of students' undergraduate experiences; and (4) the realistic evaluation of career options. This recruiting strategy calls for educators to work with members of the profession to heighten the awareness of students and parents about the value of accounting skills in the business world, the changing expectations of accountants' core competencies, and the importance of the increased rigour associated with recent curriculum changes. They argued that industry representatives should discuss with prospective students and their families the criteria used for hire and promotion within their firms, given their desire for a higher order skill set. Moreover, accounting academics should provide students individual counselling during their undergraduate education. This proposed survival strategy is not a difficult process and can be easily executed in a one-day workshop for business students and their parents.

Metrejean and Zarzeski (2001), Metrejean et al. (2002) and Fedoryshyn and Tyson (2003) argued that carefully planned guest speaker presentations in the accounting courses can help to expose business students to accounting professionals and to provide them a very exciting real-accounting experience which provides an opportunity for effective recruitment.

Wilder and Stocks (2004) argued that one of the most successful opportunities for recruiting students is at the level of accounting principles. They had conversations with numerous students who had excelled in a first accounting course, attempting to convince them to major in accounting. An obstacle in recruiting these students was that these students did not have an accurate perception of the opportunities an accounting degree provides. Their strategy in recruiting these students was to convince them that an accounting degree would not only provide them with the same opportunities that their

current major afforded, but it would also provide them with many additional opportunities.

2.4.2 The constructs of an accounting career choice

This review will be focused on research into the factors that affect the ACC. The aims are to identify the individual constructs of an ACC and also to examine how these constructs are interrelated and affect the choice of accounting as education and occupation. Educational and occupational choice is a complex interaction between goals, stereotypes, specific vocational beliefs, perceptions and attitudes, personal influences and self-efficacy beliefs that affect students in different ways and at every point of “choice” in their decision-making process (Lent et al., 1994). This complexity has important implication for the future of the AP. Understanding students’ motivators when selecting an accounting career is an important first step in the effort to attract and to retain the proper students to the accounting profession. Accounting research has been conducted for many years seeking to identify what motivates individuals to choose accounting as a major and as a profession.

A number of studies have dealt with the stereotype of accountants and the AP (DeCoster, 1971; Aranya et al., 1978; Imada et al., 1980; Cory, 1992; Coate et al., 2003; Hunt et al., 2004) with the general and specific vocational factors that influence students in their choice of accountancy as a career (Ashworth, 1969; Peil, 1988; Inman et al., 1989; Horowitz and Riley, 1990; Adams et al., 1994; Felton et al., 1994; Ahmed et al., 1997; Auyeng and Sands, 1997; Lowe and Simons, 1997; Mounce and Mauldin, 1998) with students’ and others’ perceptions (Fisher and Murthy, 1995; Hermanson and Hermanson, 1995; Pollock et al., 2002); and with attitudes towards the AP (Nelson, 1992; Cohen and Hanno, 1993; Felton et. al., 1995; Marriott and Marriott, 2003; Tan and Laswad, 2006). These studies have attempted to clarify the different aspects of an ACC and to help the accounting community to identify the most effective ways in the recruitment of future accountants.

2.4.2.1 Accounting stereotypes

Much has been written and said about the effect of the image of accountants on the recruiting process. Accounting researchers have argued that students choose the AP based partly on the stereotype they hold of accountants (Ashworth, 1969; De Coster, 1971). The term “stereotype” was first used by Walter Lippman (1922) to describe a cognitive process whereby individuals employ simplifying generalizations as a means

of organizing perception and imposing their personal values on the world. Stereotypes may be defined as a collection of attributes believed to describe the members of an occupational group (Ashmore and Del Boca, 1981). Oakes et al. (1994) supported the view that stereotypes helped individuals to form and identify different groups and so contribute to the development of beliefs that helped to explain events and justify collective action.

According to Vinacke (1957, p.239) “the development of stereotypes depends upon the kinds of experience one has with the objects of the class (the group with stereotype) including what other people and the television set express, as well as personal contact”.

Many studies in the accounting field have been conducted to identify the stereotype of accountants held by different segments of society (DeCoster, 1971; Aranya et al., 1978; Imada et al., 1980; Cory, 1992; Coate et al., 2003; Hunt et al., 2004).

DeCoster (1971) summarized many of the earlier studies from the 1950s and the 1960s and charted the negative stereotype of the accountant as impersonal, quantitative, inflexible, orderly, and introverted. According to DeCoster, there is considerable evidence in the psychological literature that the AP is stereotyped by the layman and that the stereotype includes many attributes that are perceived as negative-coldness, aloofness, passiveness and avoid of sensitivities. He concluded that the results were conflicting, as some of the studies reviewed showed contradictory results with regard to the accounting stereotype. These contradictory results may arise for more than one reason. First, in the area of psychological assessment there are different sampling techniques employed, and there are problems with the validity and reliability of the psychological measuring instruments. Second, there is wide variation among accountants, their backgrounds and their life styles and it is quite possible that there are two different groups of individuals to be found in the profession, one which conforms to the traditional accounting stereotype and a second which does not.

Aranya et al. (1978) conducted a study with a sample of accounting students and psychology students to investigate the stereotype of the accountant based on Holland's theory. They used an inventory of interests to determine vocational interests and inclinations toward conformity and adherence to socially accepted values. They found statistically significant evidence that accounting students showed a vocational interest in business and organization but not in the areas of culture, arts and entertainment. Their results showed that accounting students tended to show stronger adherence to social norms and values than psychology students, as was predicted by Holland's theory.

Imada et al. (1980) found that practising accountants, recruiters and non-accounting students held two clearly distinctive stereotypes of accountants. Accountants and recruiters perceived accountants as possessing a wide range of interests and students as possessing mainly traditional business-oriented sets of interest.

Cory (1992) investigated the stereotypical image of accountants held by university freshmen. The results of her empirical study indicated that the stereotypical accountant's image is not excessively negative. Students have classified accountants as more aggressive than timid, more confident than uncertain, more ambitious than unambitious, more forceful than shy, more imaginative than dull, more enthusiastic than indifferent, more intelligent than confused, more outspoken than conservative, more independent than submissive, more enterprising than awkward and more optimistic than pessimistic. In a few cases where they had negative average results, the accountant was rated as more methodical than impulsive, more conforming than rebellious, more patient than impatient and more formal than informal. However, in comparison with members of the occupational groups of attorneys, bankers and marketing managers, the accountants are generally perceived in more negative terms.

Coate et al. (2003) surveyed undergraduates business students enrolled in accounting principles about their views of the accounting stereotype with respect to 30 personality traits. Their results showed that the conventional accounting stereotype "appears alive and well". This stereotype has both positive and negative sides. On the negative side, students perceived accountants as more formal and reserved, having a tendency to be sceptical, non-thrill-seeking, less open to experience and working alone with tedious numbers as compared to the average individual. On the positive side, accountants were perceived to be very capable, ordered, principled, diligent, self-motivated, competitive, less stressed and possessing more leadership qualities.

Hunt et al. (2004) found that business students had a more positive view of accountants' professionalism than of their personality, which was stereotyped as inflexible, unexciting and detail-oriented. They also found that accounting majors regard accountants as leaders, ethical persons and valued business advisors.

Most of the above studies concluded that the accounting stereotype held by social groups is a negative one, but there are some positive aspects to the accountant's image. In fact, some researchers have concluded that there may be more than one stereotype of the accountant held by students and in society at large (Imada et al., 1980; Cory, 1992; Dimnik and Felton, 2000). Their findings are consistent with Bougen's (1994) suggestion that the complexity of the accountant's image derives from the inter-

dependency of accounting and bookkeeping. Therefore, the stereotype of accountants in society does not have the prestige of medicine, the community involvement of social work, the practicality of engineering or the importance of law (Houghton, 1992). The stereotype of accountants is one associated with a technical, practice-oriented profession that seems to be a necessary feature associated with business and administrative activities.

2.4.2.2 Factors influencing students' career decisions

Research to date on ACC has focused primarily on identifying factors which differentiate accounting majors from non-accounting majors, and accountants from other professions. The investigation of preferred job characteristics and beliefs in attributes and outcomes associated with the AP that have affected accountants and students in their choice of accounting has been central in this part of the study.

2.4.2.2.1 Work values (general preferred job characteristics, personal goals)

Accounting researchers very early tried to shed some light on the personal goals and values of those who choose careers in accounting (Gray, 1963; Thielens, 1966; Anderson, 1972). Over the past years, a number of researchers (e.g. Ashworth, 1969; Peil, 1988; Inman et al., 1989) have examined the work values that accountants and accounting and business students take into consideration when deciding to pursue accountancy as a career.

In his study Gray (1963), utilizing the Edwards Personal Preference Schedule and the Miller Occupational Values Indicator, summarized the work values applicable to accountants as,

Accountants describe themselves as people who are inclined to think in quantitative rather than verbal symbols. The single factor which seems to be most distinguishing for accountants is the high level of striving; it is of extreme importance to workers in this group to do things well, particularly difficult tasks that will bring recognition. The need is strong to be the centre of attention in any group and to have people notice and comment upon them. They exhibit a certain rigidity of viewpoint, seem resistant to change and strive to influence the beliefs and attitudes of others and to assume positions of group leadership. The primary value accountants place on an occupation is that of intrinsic rewards to be gained from it. Prestige is also important to accountants, while social rewards mean little to this occupational group. (quoted in DeCoster, 1971)

Ashworth (1969) investigated the factors that were very important in "picking a job or career" to students in different fields. He reported that accounting majors gave statistically significant greater median rank to the following factors: a chance to exercise

leadership, opportunities for moderate but steady progress rather than the chance of extreme success or failure, making a lot of money, opportunities to be helpful to others or useful to society. Ashworth (1969) concluded that accounting and business students, more so than students in engineering, law, and the physical and social sciences, are indifferent to motivation and goals as living and working in a world of ideas and opportunities to be original and creative.

Accounting researchers have also investigated the criteria utilized by accounting majors in evaluating alternative employment opportunities (Carpenter and Strawser, 1970; Zikmund et al., 1977). Carpenter and Strawser (1970) asked full-time senior accounting students at the Pennsylvania State University in the USA to indicate the job characteristics which they considered to be most important in evaluating alternative accounting employment opportunities. The respondents ranked nature of work, opportunity for advancement and starting salary as the most important job factors. Zikmund et al. (1977) surveyed accounting students as to the influence of job characteristics such as salary, interesting job, social responsibility and opportunity of advancement when considering accounting job offers, and opportunity for advancement appeared to be stronger than other factors. Their findings showed that accounting students tend to reject jobs that would not provide interesting work. Students do consider salary in their decision but interesting work seemed to be more influential in the decision making process than salary. The social responsibility of the prospective employer also appears to have at least a modest positive influence on whether to accept an offer of employment.

Peil (1988) conducted her study at Birmingham University in England, asking first and third year students in two business degree programmes, Accounting and Money, Banking and Finance, and postgraduate students in the Engineering Production Department to rate 15 job characteristics as to how important each would be if they were looking for a job. Her results indicated that the most important job characteristics for accounting students were: good promotion prospects, chance to use special abilities, high salary and security. The least important were: allow me to be creative, opportunity to be helpful to others, risk and chance to test my judgement. Her results are similar to those reported by Shivaswamy and Hanks (1985). They reported that the whole sample of accounting students perceived job security, the opportunity to use special abilities and aptitudes and salary potential as the most important job characteristics. Students with higher grade point averages GPAs and female students valued “the opportunity to use special abilities and aptitudes” more highly than job security and salary potential.

Inman et al. (1989) used focus groups to investigate students' choice of education and career decision-making process. The factors that accounting students considered to be important in choosing a career, regardless of occupation, were the following: career advancement opportunities, interesting assignments after two years, long-range earnings potential, partner/officer opportunity. The least important factors were: starting salary, prestige of profession, interesting initial assignments, opportunity to pursue advanced degree. Therefore in this study accounting students valued longer-term factors over short-term factors in their ratings. With regard to factors not related to job influencing career choice, students reported that interesting university courses and grades in related courses were very influential.

Hartwell et al. (2005) reported that high school students who consider a career in business indicate as important job characteristics factors such as salary, opportunity for advancement, job security and variety of job tasks. Non-business students were more interested in salary, contribution to society, variety of job tasks and flexible work schedule.

2.4.2.2.2 Specific factors related to the accounting career choice

There was a lack of knowledge of what specific factors are influential in the career choice of accountants when the first study was reported that had tried to get an answer to the question as to what had attracted accountants into the field of accountancy (Powell, 1966). From then on, parallel with the investigation of the work values of accountants, a growing number of studies have been conducted to identify the attributes and outcomes associated with the AP that have influenced individuals (accountants and students) in their choice of accounting as a career, and also to rate the relative importance of such factors in their choice (Horowitz and Riley, 1990; Adams et al., 1994; Felton et al., 1994; Ahmed et al., 1997; Auyeng and Sands, 1997; Lowe and Simons, 1997; Mounce and Mauldin, 1998).

Powell (1966) studied a cohort of honours undergraduate and graduate male students, members of Beta Alpha Psi in the USA, to find out which of a list of six factors motivated them, to select accounting as their major. The students selected the following as the most important: employment opportunities, job related interest, salary potential, others issues, social prestige, parental and social pressure.

Paolillo and Estes (1982) conducted a study in the USA that compared the career-choice factors of accountants, attorneys, engineers and physicians. They used survey questionnaires to collect data on the importance of 12 possible factors that were known

to influence the career choice of members of the following organizations: American Institute of Certified Public Accountants (AICPA), American Bar Association, American Society of Mechanical Engineers and the American Medical Society. The 12 factors included in the study had been identified in previous studies, including studies by Ashworth (1969) and Carpenter and Strawser (1970). Paolillo and Estes' results showed that for accountants the most important factors were: aptitude for subject matter, job satisfaction, earnings potential and availability of employment, while the least important were: peer influence, parental influence, cost of education and association with others in the field. They also reported that availability of employment, earnings potential, years of education required, aptitude for the subject matter and teacher influence had a greater impact for accountants than for other professionals, while job satisfaction was less important than for other professionals.

Replicating the above study, Gul et al. (1989) surveyed first year university students in accounting, engineering, law and medicine in Australia to investigate whether the same 12 factors influenced them in their choice of major. The Australian students who chose to major in accountancy ranked their most important influences as follows: job satisfaction, earnings potential, availability of employment, aptitude for subject, and years of formal education. When compared to the ranked scores for the other disciplines, the most important factors for accountants were: earnings potential, years of formal education and availability of employment. The results of the Australian study are similar to those in the Paolillo and Estes study. Accountants and accounting students in both of these studies considered the most important attributes associated with the AP the availability of employment and its earnings potential.

Surveying British accounting students, Horowitz and Riley (1990) identified the following criteria as the most important in their choosing a career as chartered accountant: career prospects/future opportunities, job satisfaction and interest, money/future rewards and challenging job. They also found that the main deterrent to a career in chartered accountancy was "its poor public image as a boring, middle-class occupation, a last resort for those who cannot get other jobs". According to the survey, the main competitors of chartered accountancy in terms of recruitment are management consultants and merchant banks as they were perceived as providing better paid and more interesting and responsible jobs.

In a longitudinal study of American university students enrolled in the introductory accounting course, Adams et al. (1994) sought to identify the factors that motivated these students in their choice of a major. The results suggest that accounting

and non-accounting students considered good job opportunities, high earnings potential and genuine interest in the field as the most important selection factors. Further, they stated that high-aptitude, non-accounting majors were primarily motivated in their choice by “genuine interest in the field” and less motivated by monetary and job availability factors. Overall, they reported that the AP tended to lose higher aptitude students than it gains as the students move toward their degree.

Felton et al. (1994) investigated the factors that influenced Canadian business students in their choice of a career in chartered accountancy. Specifically, they used discriminant analysis to examine the ability of six factors (intrinsic values, initial and long-term earnings, job-market consideration, benefit/cost ratio and the students’ interest in high school accounting) to distinguish between business majors who chose chartered accountancy and students who chose non-accounting occupations. The statistical analysis revealed that the benefit/cost ratio was the variable with the strongest explanatory power (.3435) of the discrimination, followed by initial earnings, job market, high-school accounting, intrinsic factors and long-term earnings. Their results indicate that business students who preferred non-accounting careers are more concerned with the intrinsic attributes of a job and with high initial earnings, whereas students who preferred accounting careers placed more emphasis on good long-term earnings and promising job-market opportunities.

Auyeng and Sands (1997) examined the impact of cultural variations on career decision making by accounting students from Australia, Hong Kong and Taiwan. Their study adopted the individualism-collectivism cultural dimension to investigate the relative influence of career choice determinants on accounting students. They used the 12 career-choice factors described by Paolillo and Estes (1982), but grouped these factors into three broad categories as significant others, material factors and intrinsic beliefs. Their results indicate significant differences in mean scores in nine of the 12 variables between the students from Australia and the students from Hong Kong and Taiwan. Whilst aptitude for subject matter (in the intrinsic beliefs category) had a positive effect on Australian students, the category significant others (parental influence, teachers’ influence, peers’ influence and association with others in the field) had a stronger impact on the Hong Kong and Taiwanese students. They also found that material factors (availability of employment, prestige and social status, earning potential, cost of education and years of formal education required) had a greater influence on the Asian students than on their Australian counterparts.

Lowe and Simons (1997) replicated the studies by Paolillo and Estes (1982) and Gul et al. (1989) by asking second year business students to indicate the relative importance of 13 possible factors on their choice of major (accounting, finance, management and marketing). They constructed their scale with items-factors from the questionnaires of Paolillo and Estes (1982), Gul et al. (1989) and Adams et al. (1994); their scale also included two new factors: interesting information and intellectual challenge. The factors important to accounting students were compared with those which were more influential for students of marketing, finance and management. Accounting students were motivated in their selection of major by future earnings, career options, initial earnings and their ability to succeed in their major. Marketing students tended to be more influenced by interesting subject, self employment opportunities, career options and future earnings, while finance and management students were mainly influenced by future earnings and career options. The external validity of Lowe and Simons study is questionable – as they themselves stated, “the approach may be criticized due to the lack of theoretical framework for the specification of the decision process and decision variables”.

Ahmed et al. (1997) examined the factors that influence accounting students in New Zealand in their choice of career, either in chartered accountancy or of a non-accounting career. They replicated the study by Felton et al. (1994), only including a few additional factors in their scale. They reported that students who intended to select a career in chartered accountancy were significantly influenced by financial and market factors, and perceived the benefits of a career as a chartered accountant to be greater than the associated costs. Students choosing a non-accounting career, however, placed greater importance on intrinsic factors, such as intellectual job, creativity and autonomy, and perceived the AP as dull and boring.

Mounce and Mauldin (1998) found that according to faculty members of American Universities who teach the first course in accounting, the three most important factors that affect students in their choice of accounting programs are: interest in the subject, career opportunities and salaries.

Nelson et al. (2002) reported that availability of accounting jobs, good salaries and interesting/exciting profession are the most important factors to have influenced the American accounting students in their study to pursue accounting as a major. They further presented evidence that there was a shift from the factor availability of accounting jobs towards interesting and exciting profession in the years 1995-2000.

2.4.2.3 Perceptions of the accounting profession

Relevant vocational literature suggests that students' career perceptions are highly individual, and are the product of contracted images from personal contact with a job, derived images from the range of media to which young people are exposed, and delegated images by adults about the jobs and careers they come into the contact with (Foskett and Hemsley-Brown, 1999). From a psychological perspective, the specific vocational perceptions of personal attractiveness in a profession relate only to specific beliefs in attributes and outcomes associated with this profession (Rokeach, 1973; Fishbein and Ajzen, 1975; Bandura, 1986; Foskett and Hemsley-Brown, 1999).

Given the significance that perceptions play for the recruitment of new members into any profession, there are only a small number of accounting studies that have dealt specifically with accounting and non-accounting students' perceptions of the AP (Fisher and Murthy, 1995; Hermanson and Hermanson, 1995; Pollock et al. 2002).

Hermanson and Hermanson (1995) examined top business students' perceptions of the AP. They developed a survey with 17 characteristics of the AP without employing any theoretical framework for the conceptualization of relevant beliefs. They stated that the nature of accounting work, the accounting work environment and the lack of creativity in accounting jobs were the most important negative perceptions that influenced top business students not to major in accounting.

Fisher and Murthy (1995) reported negative views regarding the nature and the role of accounting held by students. Other studies at different US universities asserted that students perceive accounting work as highly precise and thorough, and that this deters interest and discourages creative individuals from pursuing an accounting major (Saeman and Crooker, 1999; Coate et al., 2003). However, Hartwell et al. (2005) reported more positive students' views of accounting, claiming that students believe that an accounting degree would be useful to individuals who wanted challenging work, who wanted to be president or CEO of a big company, or to be a business consultant.

Pollock et al. (2002) investigated high school counsellors' perceptions of the profession and found that they perceived it as uninteresting, stressful, time-consuming and not that rewarding financially. Barsky and Catanach (2001) noted that many students and their parents do not understand how the role of accountants has changed from advisor on traditional cost, financial and tax accounting matters to consultant on broad-based management issues. They suggested that the message of professional

change must be communicated to dispel the negative perceptions historically attributed to accounting as boring, irrelevant and stodgy.

Byrne and Willis (2005) in a recent study investigated the perceptions of Irish secondary school students of the work of an accountant and the status of the AP. They measured perceptions with an instrument developed by Saeman and Crooker (1999), and reported a negative view of the nature of the accounting job as students perceive accounting as boring, definite, precise and compliance-driven. Secondary students grant a high status to the AP but ranked it 6th among ten professions. However, Byrne and Willis examined students' perceptions associated only with the nature of the accounting job and with the status of the AP, and did not mention anything about students' perceptions of other attributes and outcomes associated with the profession.

The accounting studies discussed so far present different results for students' perceptions of accounting. Most demonstrate negative perceptions; however, they have measured students' perceptions using different and unrelated constructs as perceptions, such as the nature of the accounting job, the characteristics of accountants and of the accounting job, stereotypes of accountants and intentions towards the AP, often without any theoretical justification (see Nelson 1992; Fisher and Murthy, 1995; Saudagaran, 1996; Saeman and Crooker, 1999; Mladenovic, 2000; Marriott and Marriott, 2003; Byrne and Willis, 2005).

It seems that what is missing from the accounting research carried out so far is the conceptualization and operationalization of the perception of the AP based on a common accepted theoretical framework. Therefore, investigating perceptions and their relationship with the other constructs of an ACC confounds and casts doubt on the validity of the conclusions proffered in most studies.

2.4.2.4 Attitudes towards the accounting profession

Nelson (1992), Stice et al. (1997) and Marriott and Marriott (2003) have argued that the attitude towards the AP is a fundamental factor in students' selection of an academic major and of a career. Regardless of the importance of attitude in an ACC, there has been very little work in this area to identify students' attitudes towards the AP, the specific beliefs underlying these attitudes and any suggestion of strategies to affect attitudes.

Nelson (1992) reviewed many of the earliest US studies (Deines and Pallett, 1989; Inman et al., 1989; USC, 1990; Mapp et al., 1990; AICPA, 1991a) which attempted to measure the attitudes of high school and university students toward the AP and reported

that these studies suffered from the lack of standardized, single-item measures of attitude, resulting in an unknown degree of reliability and ability to generalize across studies. Nelson has developed a new scale of attitudes towards the AP, the 20-items Accounting Attitude Scale (AAS) Version 4.0, to assess the general overall global attitude of business students toward a career in accounting in the USA. This is the first and only scale developed until today for the measurement of attitudes towards the AP. Nelson developed his scale without employing any theoretical framework to define attitude and to operationalize the selected items. Specifically, he stated that content validity was assured by systematically selecting items that contained a representative sample of the domain which the scale was intended to measure, without reporting any other information for the selection of individual items of the scale. He has included a number of different conceptual items to measure attitude towards the AP. He used 13 items to measure beliefs for attributes and outcomes associated with the AP. Two items measure personal influences from significant others. Three items measure the intention to follow the AP and one item measures stereotypes held of accountants. The result of his study showed a strong statistical relationship between attitude towards the AP and selection of accounting as a major. Nelson did not report which of the above items had a significant positive or negative effect on the overall attitude toward the AP, nor did he present the response rates for individual items of the scale.

Foster (1995) used Nelson's scale to measure students' attitudes towards the profession after a traditional and an innovative first accounting course respectively. He reported unfavourable attitudes towards the AP after both types of first accounting course. His results indicated that there was not any statistically significant difference in attitude regarding the AP between students taking a traditional and those taking an innovative first accounting course. Foster did not report students' response rates for individual items of the AAS scale.

Nelson and Vondryk (1996) conducted a longitudinal study on various characteristics of accounting students, including attitudes towards the AP, in the USA during the period 1991 to 1995. They used the Accounting Attitude Scale (AAS) and reported that generally attitudes had improved and worsened in alternating years but their results on attitudes are difficult to interpret. They did not present response rates for individual items of the scale, reporting only that both availability of jobs and money/good salary were the important factors that influenced students to select accounting as a major.

Marriott and Marriott (2003) adopted the AAS Version 3.1, with the first 15 items of Version 4.0, to analyse the changes in attitude towards the AP of business students majoring in accounting at two UK universities (traditional and new) at the beginning and at the end of their periods of study. The results of their study indicated that at the beginning of their accounting course students had a reasonably high overall average attitude score towards the AP. According to Marriott and Marriott, the most positive items (above eight out of a possible ten) were: accountants are boring people (reverse scored), the accounting profession is well respected, I would enjoy being an accountant and I like accounting. At the end of their studies the overall average score of the AAS scale fell significantly. They reported that the “negative movement in attitude towards accounting is in the same direction” between the “traditional” and “new” universities (2003, p. 129). The items that worsened were: accounting is just a lot of rule-memorizing, accountant works alone more than he works with people, accounting is interesting, accounting is a lot of fixed rules, accountants find little personal satisfaction in their work, I would enjoy being an accountant, accountants are boring people and I like accounting.

Marriott and Marriott (2003) reported problems using the AAS, stating that “there are some crumbs of comfort in the data” (p. 126). Further, they reported that their data sets at the beginning and the end of the accounting course identified four and five factors respectively, whereas Nelson (1991) reported that “factor analysis has confirmed only one strong factor”. (c.f. Marriott and Marriott, 2003, p. 127)

Concluding the above review on attitudes towards the AP, it needs to be borne in mind that the term attitude has often been used in a general way to refer to beliefs, attitudes, intentions and behaviour (Fishbein and Ajzen, 1972, 1975). Unfortunately, such a broad use of the term attitude fails to recognize that these four concepts are conceptually and operationally distinguishable from one another. Perhaps even more importantly, this viewpoint also fails to recognize that these four concepts have theoretically different determinants (Fishbein and Middlestadt, 1995).

2.4.2.5 Investigating the ACC under a theoretical framework

Only few accounting researchers have used a theoretical framework for their investigation of the career decision making process (Cohen and Hanno, 1993; Felton et. al., 1995; Allen, 2004; Tan and Laswad, 2006).

Cohen and Hanno (1993) examined business students’ choice of major using a formal cognitive-based model, known as the theory of planned behaviour (Ajzen, 1988,

1991), to investigate the relative importance of factors that influence students' choice of their academic major. The researchers developed conceptual definitions for the constructs of the accounting major decision-making process (attitudes, subjective norms, perceived control and intention) grounded in planned behaviour theory. Cohen and Hanno (1993) were the first to measure attitudes towards an accounting major, multiplying differential beliefs by outcome evaluations. They found that all the constructs of the theory (attitudes, subjective norms and perceived control) were significantly correlated with the intention to choose accounting as a major. Further, they identified that accounting majors believe that high earnings, advancement potential, a chance to establish a private practice and work with numbers are the characteristics and outcomes that are statistically significantly associated with the AP. Non-accounting majors considered as the most negative characteristic of an accounting career that it is not exciting and boring, and that accountants work alone and seldom with other employees. Cohen and Hanno concluded that the image of the profession and the content of introductory accounting courses must be radically changed in order to attract non-accounting students into the profession.

Felton et al. (1995) examined business students' choice of a career in chartered accountancy, using the Theory of Reasoned Action (TRA) to model the relationship between attitude and career choice. The TRA model is a general model for decision making which emphasizes the specific process by which individuals make decisions (Fishbein and Ajzen, 1975). Felton et al. in their study defined attitudes in two ways: firstly, as a function of behavioural beliefs, and secondly, as a ratio where the numerator is beliefs in the benefits and the denominator is beliefs in the costs of following a career as chartered accountant (CA). They found support for the ability of the TRA model to predict students' choice of a CA career. They argued that the most important determinants for chartered accounting career students are good earnings, advancement opportunities, variety in the work, the chance to make a contribution and flexibility of career options.

Allen (2004) examined the role of the 150-hour requirement in influencing American students' decision whether to choose a major in accounting. The 150-hour requirement were introduced to U.S and extends the time to complete an AE, increases the cost of that education and is the minimum criterion for sitting for the CPA exam. His study used the theory of planned behaviour as its theoretical framework for investigating the factors that limit students' interest in a 150-hour accounting major. He reported that the choice of accounting major is significantly correlated with all three

constructs of the theory of planned behaviour -subjective norm, attitude and perceived control. He suggested that the AP will have to use additional means beyond the 150-hour mandate by which to improve the image of accounting in order to attract capable, high-performing students to the accounting major.

Tan and Laswad (2006) investigated the factors that influence New Zealand students' intentions to major in accounting and non-accounting disciplines respectively, using the theory of planned behaviour. Their results showed that referents, personal attitudes and perceived control are significant determinants of students' intentions to major in accounting or other disciplines. They proposed that dissemination of information about accounting and its career prospects would assist students and their parents in making 'informed judgements' in the choice of academic majors.

2.4.2.6 Persons influencing the accounting career choice

Several researchers (Powel, 1966; Evans, 1974; Paolillo and Estes, 1982; Cangelosi et al., 1985; Ahmed et al., 1997; Geiger and Ogilby, 2000) have reported the importance of significant others to affect students' choice of an accounting career. These studies have identified as important referents that affect the choice of a university or university accounting major and accounting career the following: accounting educators, parents, friends, accountants, business persons, society and the media.

Previous accounting studies (such as Evans, 1974; Paolillo and Estes 1982; Inman et al., 1989; Felton et al., 1994; Albrecht and Sack, 2000; Hunt et al., 2004) have reported on the role of accounting instructors/teachers in the recruitment of future accountants. According to Hermanson et al. (1995), university instructors were the greatest influence in the selection of accounting students' major. Mauldin et al. (2000) supported the finding that the teacher of a first accounting course plays the most significant role in students' decision to choose accounting as a major. According to their study, the accounting instructor was ranked high among all the other factors that affect students' selection of accountancy as a career. However, some other studies have argued that the accounting instructor did not play a significant role in students' decision to pursue the AP (see Cangelosi et al., 1985; Gul et al., 1989)

Family, professors, business people and friends were found to be other important sources of advice for both accounting and non-accounting students (Inman et al, 1989; Cohen and Hanno, 1993; Mauldin et al., 2000; Hartwell et al., 2005). However, other empirical studies (Cangelosi et al., 1985; Gul et al., 1989; Hermanson and Hermanson,

1995; Lowe and Simons, 1997) have found that parents, friends and high school teachers did not have a strong influence on students' major choices.

Wilson and Mason (1995), conducting a review of the existing literature, concluded that students have been shown to be influenced by accounting educators, high school counsellors, members of their families, peers and friends.

2.4.2.7 First accounting course performance

Students' performance in accounting courses is another possible influence affecting business students' career choices. Cohen and Hanno (1993) and Tan and Laswad (2006) reported that students' perceived success in their first accounting course is an important contributor to predicting the choice of accounting as a major. However, Allen (2004), using the theory of planned behaviour as did the two above-mentioned studies, found that course performance was not a significant predictor. Furthermore, two other empirical studies show mixed results. Adams et al. (1994) found that students' performance was not a significant signal of students' decision to major in accounting. However, they argued that poor performance was perceived by non-accounting majors as an indication that they did not have the required skills and abilities to pursue an accounting major. Geiger and Ogilby (2000) supported that self-efficacy in the first accounting course is an important factor that influences students in their educational and occupational choices. In contrast, Stice et al. (1997) found that high course performance was not a significant influence on students that moved them to select an accounting major.

2.4.3 When students decide on an accounting career choice

Nelson and Vendrzyk (1996) illustrated the importance of the timing of students' decisions to choose accounting as an academic career and as a major, with valuable implications for strategies to recruit qualified students. Drawing on previous studies, (such as Accounting Careers Council, 1966; Evans, 1974; Practical Accountant, 1974; Paolillo and Estes, 1982), Wilson and Mason (1995) argued that the majority of individuals had decided to become accountants before their final year at university. According to Hermanson et al. (1995), most top business students select a major during high school or very early and no later than by the end of their sophomore year. The findings of other studies are similar to those by Hermanson et al., arguing that the crucial time for an ACC is high school and the first two years at university (Powel, 1966; Gul et al., 1989; Graves et. al., 1993; Mounce and Mauldin, 1998). Data from

Mauldin et al. (2000) also showed that many business students decide to major in accounting during their first accounting course, and therefore recruiting efforts should be designed carefully and targeted to students in the first accounting course. Hunt et al. (2004) reported that accounting majors decided earlier than other majors – almost half of the accounting majors had decided on their major before starting university. They suggested that as other business students decide on a major later, accounting educators have the opportunity to inform business students early to the benefit of AP.

2.5 Chapter summary

One of the main findings of this chapter is that the AP has experienced significant changes in the services, responsibilities, skills and competencies required by future accountants, due to changes in technology, globalization and the business environment. Accounting is becoming a “knowledge services” profession. Instead of placing the focus solely on the historical reporting of financial data, accountants are being asked to provide forward-looking information and to give a predictive interpretation of that information (Messmer, 2001). Certified public accountants, internal auditors, corporate and governmental accountants no longer sit alone behind a desk doing traditional accounting work – auditing, bookkeeping and taxation – but instead must be part of a business team. Accounting work requires substantial social interaction and economic entities would benefit from more creative, imaginative and open-minded accountants.

In addition, this chapter has reviewed the existing literature concerning an ACC and has highlighted the need for the development of a new approach to understand and study the recruitment process of individuals to the AP. Most of the studies reviewed in this chapter dealt with the factors influencing an ACC, based primarily on the results from survey research. Using a research format which merely asked students which factors were important to them when looking for a job in general, when choosing accounting as a major or when selecting the AP as a career. In addition, previous studies differ in terms of the variables that are said to play a central role in recruitment to accounting, in the ways in which variables are interrelated, and in terms of focusing on the processes of formation of the variables.

A distinction should be made between the constructs of an ACC and the operations that have been employed to assess those constructs. From the current author’s point of view, most studies can be classified at the conceptual level as dealing with one the following: (1) general job characteristics that business and accounting

students take into consideration when they choose a career; (2) specific beliefs (perceptions) of attributes and outcomes associated with the AP; (3) stereotypes associated with accountants; (4) attitudes towards the AP; (5) students' accounting course performance and self-efficacy beliefs towards pursuing an accounting major or career; (6) referents that influence students' career choice; and (7) the whole accounting career decision-making process from a particular theoretical perspective.

At the operational level, many investigators fail to distinguish between job characteristics, specific beliefs held of the AP, influences, overall perceptions, attitudes and intentions to choose an accounting major or follow the AP. Thus, although the conceptual variable in a study may be attitude, the operation utilized may be assessing beliefs, influences, perceptions and intentions. Previous researchers have generated lists of general preferred job characteristics and of beliefs pertaining to attributes and outcomes associated with the AP without employing any particular theoretical framework. Therefore, certain critical job characteristics and attributes and outcomes were not included in the lists and previous studies have measured only a part of such beliefs and perceptions about and attitudes towards the AP. Furthermore, the diverse conclusions of previous studies suggest that it may be impossible to categorize the specific factors related to the AP as either simply positive or negative and to draw conclusions from these.

One of the fundamental findings of this chapter is the necessity for researchers who study the recruitment of students into the AP to recognize that a number of different constructs (such as work values, beliefs, perceptions, attitudes, influences, perceived ability to become accountants) may be interrelated and thus affect the intentions of students to pursue an accounting career. The literature review above has shown that the majority of such studies have examined the different constructs of an ACC in isolation.

There is thus a need for the development of a new integrated theoretical framework to underpin the investigation of an ACC. Such a new integrated approach must incorporate all the constructs of a decision-making process and at the same time specify the vocational character/nature of the constructs towards a specific profession. This thesis seeks to address this gap in current research by investigating the ACC by taking an integrated theoretical approach.

Further, the literature review revealed that there is a gap in research into ACC in non-English speaking European and developing countries.

The next chapter provides a review of literature concerning the role of AE in the recruitment process of accountants, specifically examining the first accounting course and its potential as a recruiting tool.

Chapter 3.

ACCOUNTING EDUCATION AND CAREER CHOICE

LITERATURE REVIEW

3.1 Introduction

In this chapter a systematic review of the literature was conducted to obtain information about the historical background and the nature of accounting education (AE), and its impact on students' decisions to pursue an accounting career. This chapter's objectives are, first, to point out the importance of AE for the profession today, and second, its role in the recruitment of future accountants. For these purposes, the chapter is divided into five sections. After the introduction in Section 3.1, Section 3.2 provides a background of the history and nature of AE. Section 3.3 highlights some important aspects regarding the first accounting course (FAC) and its use as recruiting tool into the accounting profession (AP). Section 3.4 presents the role of information in attempting to change attitudes held towards the AP. Section 3.5 outlines the main conclusion of this chapter.

3.2 Accounting education

Before proceeding to a discussion of the relationship between AE and recruitment into the AP, this section outlines the history and nature of AE. The review draws on a variety of sources, mainly from English-speaking countries (Lee, 1995; Previts and Merino, 1998), with a special focus on empirical reports and institutional studies such as those prepared by the American Accounting Association (AAA), the Institute of Management Accountants (IMA), and the American Institute of Certified Public Accountants (AICPA).

3.2.1 Origin and development of accounting education

AE began as an apprenticeship program in colonial America. The original purpose of the first higher educational programs in accounting was to train practitioners' assistants (Previts and Merino, 1979). Previts and Merino (1979) and Miranti (1990a) have provided evidence for the early development of university and college-based AE, resulting from concern professional accountants had with the need for and quality of financial accounting and auditing services. In 1881 the University of Pennsylvania's

Wharton School of Finance and Economy became the first school of business founded in the United States (Pierson, 1959; Langenderfer, 1987). Accounting practitioners envisioned that higher education provided the means for obtaining respectability and professional recognition. Early US accountants were concerned to demonstrate publicly their high professionalism in terms of education, training and ethics (Carey, 1969). Much of this concern was due to external criticism of accounting and auditing standards, and internal concern about the variety of entry standards in the profession (Lee, 1995). AE evolved into a collegiate program around the turn of the century. By 1926 there were 335 colleges and universities offering more than 250 different accounting courses with titles such as Practice in Accounting, Expert Accounting, Investment Accounting, Bank Accounting, Insurance Accounting, to list a few (Allen, 1927). By contrast, in the UK accounting education developed by the traditional method of part-time non-university study within an apprenticeship system. Only recently has the U.S. accounting educational system been introduced to the UK (Lee, 1995).

Previts and Merino (1979, p. 154) presented the state of early AE in the following impressing comment: “After securing acceptance for accounting curricula in universities, accountants began to advocate an expansion of university accounting education to realize the goals of broader, more conceptual educational program”. According to these authors, from the early days of the profession most practitioners believed that mastery of the technical procedures of accounting and auditing was most effectively acquired through practical experience – the role of education was to develop a person’s analytical ability. Professional accountants stressed the importance of accounting educational institutions to teach and transmit scientific business and accounting knowledge to students. They supported a broad program emphasizing theory and philosophy and were disappointed when the evidence accumulated that accounting educators tended to emphasize the narrow, technical training. However, from its inception, AE had often been focused on entry-level accounting employment and therefore was remiss in emphasizing the theoretical constructs needed for long-term professional competence (Roy and MacNeill, 1967). It was the university accounting educators who moved from the theoretical approach and turned to procedural orientation. The accounting educators were influenced by John Dewey and his followers, who stressed practicality and relevance in AE (Previts and Merino, 1979). Unfortunately, “progressive” education became interpreted to mean a kind of vocationalism with little sympathy or use for so-called “classical” subjects (Previts and Merino, 1979). Therefore, it was the university accounting educators who moved from a

theoretical to a procedural orientation and adopted the traditional accounting model of education. The traditional model of teaching accounting is a textbook-driven curriculum that concentrates on the more mechanical aspects of accounting, i.e., bookkeeping. Emphasis is on the lower levels of theoretical understanding.

During the mid-1950s the economic environment changed. The Western economies shifted toward a service-oriented economy that influenced the AP and AE (Langenderfer, 1987). As the AP expanded into new service areas and businesses became larger and more complex, it became clear to the leaders of the profession that there would be demands on the profession for higher standards. Moreover, there was evidence that accounting programs were no longer attracting superior students and that their graduates lacked the knowledge, skills and abilities needed by business (Carey, 1953; Cramer, 1957). Accounting practitioners were concerned about the future of the AP and education, and launched a number of studies to examine what the business education of the future should be. In 1959 the first two reports coming out of these studies were issued for higher education in business administration (Gordon and Howell Report, 1959; Pierson Report, 1959). They acknowledged that a number of problems existed. The Gordon/Howell Report called for an AE that would be beneficial for one's entire career and not just at the entry level. The Pierson Report dealt with AE from a more historical point of view; it was critical of the curriculum of the FAC and believed it did not adequately define the role of accounting or expose students to knowledge of the underlying concepts of the subject matter. In short, business schools were criticized for being mediocre and vocational, not attracting the best students and not providing the type of education that would develop capable managers for the business community (Langenderfer, 1987). Both reports also criticized the poor quality of business research. The Cordon/Howell report (1959) stated: "If the business school belongs in the university, the research belongs in the business school..." (p.378)

As a result of the above reports' recommendations, the accounting scholars concentrated on research to give respectability to AE and to the profession. However, the academic preparation of future accountants saw little change and remained mainly concerned with technical preparation. Despite the accounting professionals' concerns, the trend away from liberal education toward technical training continued for the next decades (Nelson, 1989).

In the 1980s, three new studies were launched to appraise the future and the changes needed in AE. The Bedford Report ("Future Accounting", 1986), the Anderson Report (AICPA, 1988) and the Big Eight White Paper ("Perspectives", 1989) provided

evidence that after decades of discussion about the vocational nature of AE, little in the way of change had occurred.

The Bedford Committee (AAA, 1986) found that while the AP had expanded significantly in the scope of its practice and in the nature and the content of accounting services during the period 1925-1985, AE itself remained essentially unchanged. The Bedford Committee posited that AE would require major reorientation between then and the year 2000. Their report suggested that the accounting curriculum needed to be expanded and revised and that accounting pedagogy required upgrading. Further, the authors of the report recommended that the emphasis of AE should be on preparing future accountants for “career-long professional learning” and that essential to this goal is “a student’s understanding of the concepts and implications of knowledge derived from the natural and social sciences, the arts, and the humanities” (p.170). The report argued that “learning to learn” helps accounting students to develop the following attributes:

- an understanding of the nature and skills of logical reasoning;
- a capacity for creative thinking and problem solving;
- an appreciation of ethical standards and conduct; and
- a facility with the methods of effective communication and interpersonal relations (AAA, Bedford Committee, 1986, pp.179-180).

It was suggested that accounting educators present material that encouraged progressively deeper self-learning and an understanding of the university’s interdisciplinary relationships. In addition, the Bedford Report recommended that the industrial delivery teaching method be designed so that students are “active, independent learners and problem solvers rather than passive recipients of information (AAA, Future Accounting, 1986, p.187).

The AICPA Strategic Planning Committee was established in August 1986 to develop a more "pro-active approach" to coping with the future of the AP (AICPA, 1988, p.1). The first strategic report of this Committee contained 12 Strategic Thrusts; two of these directly address problems in AE:

Strategic Thrust 5. Work aggressively to attract qualified people into the profession and the Institute and to retain them after they enter. The overall decrease in the number of accounting students coupled with higher incomes offered by other fields will produce fewer entrants into the profession. This underscores the necessity of initiating innovative recruitment efforts at attracting students into the profession

Strategic Thrust 6. Actively seek to improve the quality of accounting education and promote the availability of accounting programs. It will be increasingly important to improve the quality of accounting education so that graduates are adequately prepared to enter accountancy. (p.2)

Of additional interest to AE are the “strategic directions” identified in the plan. Some of these associated with Strategic Thrust 5 include:

- Attract the best and the brightest high school and college students into accountancy by effectively communicating the opportunities inherent in the expanding activities as well as develop public relations programs directed to students, parents, faculty, and counsellors.
- Working with state CPA societies to develop a program of assigning a member to each high school with particular attention being paid to guidance counsellors.
- At the college level, the recruitment effort should be directed to the brightest and the best across campus, including those enrolled in liberal arts and other non-business programs.
- Study ways to encourage minorities to consider entering accountancy.
- Encourage the development of innovative paths to make careers in accounting attractive. (pp.42-43)

In April 1989, the (then) Big Eight accounting firms co-authored a White Paper “Perspectives on Education: Capabilities for Success in the Accounting Profession”. In this report they stated their concerns regarding the effectiveness of AE to attract and to educate future accountants. Mainly their focus was on the quality and not on the quantity of accounting graduates. They argued that although the enrolment overall in business school had grown substantially, there was a trend that showed the proportion of potential students in selecting accounting as a major had declined.

The same year, the American Accounting Association (AAA), in response to the suggestion by the large accounting firms authorized the formation of the Accounting Education Change Commission (AECC). The AECC’s stated mission is, according to its Annual Report, 1992-1993: “To be a leader in improving the academic preparation of accountants, so that entrants to the accounting profession possess the skills, knowledge, and attitudes required for success in accounting career paths”. The AECC Position Statement No. 1 highlights the objectives of AE. This Position Statement No. 1 represents a summary of the main points detailed in both the Bedford Report and the Big Eight White Paper. It stated, that “Accounting programs should prepare students to become professional accountants, not to be professional accountants at the time of entry into the profession....Therefore, pre-entry education should lay the base on which life-long learning can be built” (AECC, 1990a, p.1).

In this statement, the AECC re-addresses the concept of “learning to learn” and emphasizes the importance of a broad and general education. It was pointed out that the accounting curriculum must concern itself with content, teaching methods (process) and attitudes. The content of the accounting courses should create a conceptual base upon which continued learning can be built rather than focusing on the memorization of rules and regulations. The teaching methods must be effective and they must assist students to learn on their own. Furthermore, accounting programs should develop students’ attitudes of continual inquiry and life-long learning. DeMong et al. (1994) stated that the AECC charge implied a need “To assess and evaluate the effectiveness of curriculum changes and to demonstrate that the changes have had a positive influence on students’ knowledge, attitudes and skills”(p.2).

Evident in the USA over several decades since the 1960s, and more recently in the UK, is the AP’s desire to find an intellectual basis for its practices (Lee, 1995). Despite continuous efforts in the USA and the UK to identify a theoretical body of knowledge, there is a consistent view expressed by researchers that this has not changed the nature of the practice of AE (Hines, 1989; Archer, 1992).

The deficiencies, real and imagined, of contemporary AE have been the subject of a variety of studies and recommendations during the last 50 years. Each major accounting professional body, the Big Five accounting firms and several special groups have produced documents on the problems and the future direction of AE. With a background of a 50-year history of critical comments on AE, it is acknowledged that a number of problems exist (IMA, 2000). Most of these problems appear to be common to accounting educational programs and not only in the USA but in other English-speaking countries as well (e.g., the UK, Australia, Canada, Ireland; Mathews, 2001). Reflecting on the state of AE has become almost a continuous process since the Bedford Report of 1986 and yet there appears to have been little change and each successive report says much the same about the problems encountered (Mathews, 2001). A number of important issues concerning the need for breadth in AE, the need for depth of learning, the revision of teaching methods and pedagogy, the need to incorporate the social dimension of accountancy and the pressure to improve students’ attitudes towards the AP have emerged from the above studies and reports.

3.2.2 Calls for changes in accounting education for the 21st century

Until the last decade public accounting firms offered relatively few “products” to the public, namely, audit opinions and tax filings (Reckers, 1995). Traditional AE programs

did the job of developing graduates with the competencies necessary to provide those products. That is, graduates were trained in the techniques of financial accounting, auditing and tax preparation (Baril et al., 1998).

In the new century, information technology, globalization, the rise of major firms, the growth of consultancy and the decline of accounting and auditing services have all significantly affected the way in which future accountants are educated (Olivier, 2000; Parker, 2001; Howieson, 2003). The identity of accountants in the twenty-first century is a major concern for practitioners and their institutes. The professional accountant in the new century must be broadly transformed into a business advisor who will more easily be able to carry out the full range of accounting and value-adding consulting services that are required in contemporary business (AICPA, 2000b, 2000c). The changes experienced in the AP should be reflected in AE (Deppe et al., 1991; May et al., 1995).

In the new era, the AP is at a point of change in its practice of such magnitude that a new professional designation was required and a new form of AE had to be created (Patton and Williams, 1990). However, many introductory accounting courses still encourage a narrow view by concentrating on data collection and processing and the determination of a “correct” answer to set problems. The absence of a course in accounting theory and the exclusion of non-financial modules from accounting programs has led to many instances of narrow thinking (Mathews, 2001).

While the many AICPA committees and commissions that have investigated the educational needs of accounting professionals have argued forcibly for changes in AE towards a broad general business education, none had ever looked directly at how the profession had changed and whether AE was keeping pace with the changes taking place (Langenderfer, 1987). However, there are two recent studies that have highlighted the changes that have been taking place in the economic environment and how these changes have impacted the accounting profession and education (Albrecht and Sack, 2000; AICPA, 2000b). The two studies have suggested specific measures that are needed in AE to keep pace with the profession in the new era of globalization

The first study of Albrecht and Sack (2000) was a joint project of the AAA, AICPA, IMA and the Big Five firms and has investigated problems in AE. The study resulted in an important review of current problems and the future direction of AE in order to prepare accountants for a new expanding profession in the US. According to their monograph “Accounting Education: Charting the Course through a Perilous Future”, AE has failed to keep pace with the changes in the economic and business

environment and with an expanding profession (Albrecht and Sack 2000). The monograph identified that technology, globalization and the concentration of power in the hands of certain investors in the market have resulted in the development of a new business world. The old accounting curriculum – which emphasized the memorizing of accounting rules and the mechanics of recording transactions – does not provide a complete picture of today's business environment. Students receive a distorted view that could discourage them from following the AP and many who may be attracted to the AP might not be well-suited to the current demands of the field. The report stressed the failure of AE to give students a glimpse of the benefits of a more exciting and comprehensive accounting curriculum.

In Chapter 5 of the above study, Albrecht and Sack (2000) have classified the problems of AE as falling into six broad areas:

- Course content and curricula of AE programs are too narrow, outdated and not exposing students to the new multi-business environment.
- Pedagogy of AE is rule-based and does not promote creativity and life-long learning.
- Skills development in AE is focused on content rather than the development of “generic skills”.
- Technology in AE is used for information processing but not for teaching or demonstrating methods in which to support decision making.
- Faculty development of, and reward systems for, accounting educators are often isolated from practitioners and therefore out of touch with the market and the real business world.
- The strategic direction of most AE programs is lagging behind developments, AE programs having failed to reorganize their curricula and to improve the quality of their services. As a result, differences in quality between AE programs and others are increasing, with AE programs having lost the ability to attract the best and the brightest to accountancy (Albrecht and Sack, 2000, p.43).

The monograph concluded that given the changing nature of the business environment and the AP, a combination of business degree programs without separate undergraduate accounting programs might be very attractive. One such program with a redesigned accounting curriculum would prepare students to be consultants/accountants with a strong basis in measurement, but also would prepare students to be more broadly

equipped to act as business consultants and advisors (Albrecht and Sack, 2000). The monograph further proposed several other possible degree combinations, such as an accounting/systems degree, an accounting/finance degree and so on.

The second study is the AICPA (2000b) Vision Project and has investigated possible improvements to be made to the image of accountants and their education. The professional accounting bodies have recognized their own career image problems and have been working to improve education, work and image of their members. The interest of accounting professional bodies is now to modernize AE with an overall shift in professional knowledge and an effort to reposition accountancy more closely to business consultancy (AICPA, 2000b, 2000c). The AICPA Vision Project (AICPA, 2000b) suggests an awareness of the fact that a change in the knowledge taught in AE was crucial to the management of change (Fogarty et al., 2004). These changes are a mandate, not an option (AICPA, 2000b). Long-standing difficulties in recruiting the students into accounting undergraduate programs and into the AP led to the recommendation to closely study the opinions of non-traditional accounting students, business and liberal arts students. AICPA Vision Project suggested that “pre and post-AE must be revitalized to meet the demands of the profession in the future” and accounting lecturers should have to “accelerate change in faculty development and revitalize curriculum to meet the Vision” (AICPA, 2000b, p. 19). The Project suggested that increased knowledge, education, experience and life-long learning by future accountants would help them to develop a more entrepreneurial mind set, to expand into new areas of accounting and business services, and that this would create more opportunities to provide value (AICPA, 2000b, p. 19). Further senior professional accountants have stressed the need for accountants to create an intellectual base for future changes. They have advocated a reading list of important management texts and books, including such titles as *The Change Management Handbook: A Road Map to Corporate Transformation* (Berger and Sikora, 1993), *Competing for the Future* (Hamel and Prahalad, 1994), and *Cybercorp: The Digital Revolution* (Martin, 1996) to support accountants’ intellectual base for the future.

Another important issue to be considered in future directions of AE is the question of ethical behaviour in the practice of accounting, and therefore the need to include the subject of ethics in AE (Gaa and Thorne, 2004). The importance of ethics in AE has long been recognized by accounting academics and professional accounting bodies (AAA, 1986; Arthur Anderson et. al., 1989; Adkins and Radtke, 2004; Williams, 2004). Different groups within society will always compete for control of an educational

agenda in order to ensure that the “right sort” of education (as it is usually defined) is developed. As education is pivotal to the way in which individuals’ understanding of the world is constructed, those in power, those seeking power and those opposing power will seek to control the AE system for their own ends (Thomson and Bebbington, 2004). The emphasis of financial accounting reporting continues to be on decision-usefulness and the interests of shareholders and creditors, rather than on the wider stakeholder groups including society in general. A recent study of accounting curricula commissioned by Pricewaterhouse Coopers (2003, p.35) identifies that “ethics is not a consistent, integrated part of education of most accounting students”. The focus of ethics education has been the development of the competencies required of accountants in order to act ethically. Accounting ethics research attempts to influence the professional judgement of future accountants by addressing dilemmas and situations that may not yet have been envisioned (Gaa and Thorne, 2004).

In summary, the above recently conducted studies have illustrated the need for fundamental changes in AE. The undergraduate accounting major of today is narrowly educated. Current accounting majors do not need extra years of education merely to acquire the exploding body of knowledge in accounting (Langenderfer, 1987). However, future accountants need to possess a broad body of general and economic knowledge, and to develop skills and abilities needed in the contemporary business environment. The meaning is clear and accurate. The AP is expanding and entering a new era with new broad business functions within organizations and within society. The profession needs people with a broad business background, different and diverse personalities, skills and competencies and the ability to engage in ethical decision making. Academia must prepare and educate accounting students for the new expanding profession, but apart from developing accounting knowledge, skills and competences, the students’ experiences of studying accounting should also affect their attitude towards the profession (Marriott and Marriott, 2003). Indeed, Nelson (1992) argued that regardless of content and pedagogical changes in AE, the goal of producing more and better future accountants cannot be achieved unless a sufficient number of students “with high levels of innate and previously developed individual talents” are attracted to and retained by the AP. Accounting professionals are working hard to transform themselves into business and financial consultants and advisors; it is now the turn of AE to help in the speed of change of the profession. Failure to do so could be fatal for the AP and for AE (Albrecht and Sack 2000).

3.3 First accounting course

While there is a need to adopt changes in all areas of AE, many authors have recognized that significant curriculum and instructional changes logically should begin with the FAC (Baldwin and Ingram, 1991; Saudagaran, 1996; Mladenovic, 2000). Most potential accountants are exposed to an undergraduate business school introductory financial accounting course. The FAC is advantageously sequenced in either the first or the second academic semester. Many accounting academics have argued that the FAC is the best and most appropriate place to attract qualified students into the profession (Garner and Dombrowski, 1997; Mauldin et al., 2000). Solomon and De Coster (1975) claimed that the principles course is one of the most important offerings of the business department, because it usually affects students' choice of a career, which may or may not be a career in accounting. It is after taking this course that students must decide whether to enrol in more advanced financial accounting courses and ultimately to pursue an accounting career (Solomon and De Coster, 1975). Baldwin and Ingram (1991) stated that,

...because elementary accounting is often the first business course, our discipline has a built-in recruiting advantage for attracting the best and the brightest students. If our elementary courses were dynamic, relevant, and intellectually stimulating, we would attract the finest minds entering in the business schools. (p.2)

The AECC Position Statement No. Two (1992, p.1) outlines the significance of the first course in accounting and points out that,

The primary objective of the first course in accounting is for students to learn about accounting as an information development and communication function that supports economic decision making. The course shapes their perceptions of (1) the profession, (2) the aptitudes and skills needed for successful careers in accounting, and (3) the nature of career opportunities in accounting. These perceptions affect whether the supply of talent will be sufficient for the profession to thrive. (AECC, 1992)

AECC here provides the primary objectives that a FAC has to achieve if students are to be persuaded to decide on a career in the AP.

3.3.1 Structure of the first accounting course

One of the assumptions made in the attempt to increase the chances of securing the entry of qualified students into the profession is that the structure of the FAC is crucial. However, introductory classes in accounting programs typically receive low priority. Traditionally, teachers presented the FAC as if it was the first course in a sequence of

courses for accounting majors. Introductory accounting focuses on preparing external financial reports, journal entries, postings and transaction mechanics, and offers little integration of business subject matters. Inman et al. (1989) has argued that the traditional approach is a strict technical user approach and creates misconceptions of accounting both as discipline and as profession. In the FAC students are seen as passive recipients of knowledge and they confront a difficult technical exam at the end of the semester. Albrecht and Sack (2000) have argued that a student's first formal exposure to accounting may be a high school or university accounting course that is actually a book-keeping course. Such a course reinforces the image of accountants as scorekeepers rather than as problem solvers and decision makers, and perpetuates the non-creative aspect of the stereotype of the accountant while offering few challenges to an intellectually curious student. IMA (2000) claimed that the first two courses in accounting too often focus on mechanics and fail to give students a glimpse of the benefits of a more exciting and comprehensive accounting curriculum. The FAC encourages a narrow view of accounting by concentrating on data collection and processing and the determination of a "correct" answer to set problems.

Williams (1993) describes how the traditional first accounting course gives the wrong image for the profession:

Many students study accounting because of their misperception that accounting is orderly, structured and precise and problems are solved as easily on the job as those in the classroom. This misperception is reinforced by traditional accounting curriculums that focus on assigned problems designed to arrive at only one acceptable answer.... Problems in practice, unlike typical accounting textbooks problems, often are unstructured and require making assumptions and estimates. (p.78)

In addition, the FAC workload has the reputation of being demanding. Moreover, the FAC is often one of the most likely courses that students drop (Price and Murvin, 1992). Foster (1995) argued that the accounting curriculum tends to make accounting one of the more difficult business disciplines. Furthermore, talented students frequently form negative impressions after completing the first course in accounting; typically, it is bookkeeping-oriented, textbook-dependent and rule-driven (Fertig, 1960; Walsh, 1960; Baldwin and Ingram, 1991). As a result, the qualified and capable students that the AP desires to retain are repulsed by its rule-bound environment (Baldwin and Ingram, 1991). Inman et al. (1989) argued that students who transferred out of accounting to other majors expressed feelings such as, "Accounting is just memorization" "It really turned me off" and "I didn't find the classes interesting" (p.38). Therefore, it is possible

that AE instead of changing negative stereotypes and perceptions strengthens the unfavourable stereotype of the accountant and current perceptions of the AP through both the subject matter and the pedagogical methods employed in elementary accounting classes.

A 1998 AICPA study found that most high school and college students after their exposure to the FAC were unable to accurately describe accountants' work or their role in the business world. Further, this study pointed out that many students actually created misconceptions of the AP through their AE because they are attracted to the AP for its alleged "exact" mathematical activity, and its reputation as a safe field to be in, and where there is a right answer to be found.

Elementary accounting classes are often taught by graduate assistants with no prior teaching experience or appreciation of the profession (Baldwin and Ingram, 1991). Mature academics have abandoned the FAC because it is perceived as unappealing, uninteresting and offering little opportunity for publishable research (Nelson, 1992).

A key ingredient in professionalizing AE is a professionally oriented, supportive faculty. Accounting educators are the persons who are responsible for the changes needed in AE and especially in its introductory courses. Accounting academics must not only be able to teach the knowledge and technical skills needed by the profession and conduct more research on real-world accounting problems, but also be able to instil in students an interest in the profession, not least for its significance and contribution to society (Langenderfer, 1987). Geiger and Ogilby (2000) added that accounting educators are facing a challenge in helping address the AP's growing need for future accountants via, first, contributing to attracting students into the profession; second, educating them; and third, retaining them. The accounting faculty often hears that the proposed solution to the AP's "personnel problem" is to do a better job of both attracting the "best and the brightest" and of attracting students with more diverse personalities, skills and abilities (Mauldin et al., 2000). However, it is possible that accounting academics unwittingly contribute to the negative perceptions held by students that accounting is mechanical and boring through both the subject matter and the teaching methods employed in introductory accounting courses rather than contributing to overcoming negative stereotypes (Langenderfer, 1987; Nelson, 1992).

AECC (1992) Position Statement No. 2 emphasized that the most effective faculty should instruct the first accounting course. It stated that,

Those who teach the course should have a record of success in teaching, should have up-to-date knowledge of professional developments, should be able to

support points by citing relevant research, should be able to bring an integrative organizational perspective to the course, and should be able to reinforce the relevance of the course to the students by examples from the non-academic work of the AP. These qualifications should be supplemented by enthusiasm and commitments (p.251).

This position requires a significant change in the way accounting faculty members view the profession, by developing innovative approaches for the content of FACs and instructions, and by minimizing the tedious material covered in principles courses and replacing this material with analyses or problem solving tasks.

Calls for significant changes in elementary accounting courses have been heard for many years by professional accounting bodies and accounting academics. Failure to update the FAC and to inform students of the changing nature of accounting work is likely to lead to a continued decline in the number and quality of business students who choose the AP as a career (Cohen and Hanno, 1993).

The AICPA Accounting Careers Subcommittee (1990a) claimed that, “A strategy needs to be developed to encourage accounting program administrators and accounting faculty themselves to make the introductory accounting courses more exciting, and thereby more appealing, to more students”. AECC (1991a) emphasized the importance of change in the introductory accounting courses, stating, “The Commission believes that changes in the introductory accounting sequence are critical to achieving its overall goals”. Baldwin and Ingram (1991) proposed that changes in AE should start with a fundamental reassessment of the objectives and content of the introductory accounting course because it sets the tone for future accounting courses and helps to attract the “right” type of student to the profession. According to Baldwin and Ingram, the elementary courses are our last opportunity to influence non-accounting majors and provide useful insights and skills concerning accounting matters. Both Parker (2001) and Diller-Haas (2004) have argued for changes needed in introductory accounting courses, and have suggested that students should gain an overview of the AP, encompassing its history, its ethics, its public responsibilities and its international dimensions after the introductory course.

3.3.2 Redesigning the first accounting course

Accounting programs and researchers who have reflected on the growing demand for significant changes in the FAC have taken initiatives to redesign the course and thereby improve students’ perceptions of accounting, achievement and learning outcomes (Friedlan, 1995; Saudagaran, 1996; Metrejean and Zarzeski, 2001). Although technical

training has remained relatively unchanged, there has been a stylistic shift away from “traditional FACs” towards “innovative FACs” that enhance learning outcomes and the perceptions of accounting. The content of the traditional FAC may vary between universities, accounting programs and educators, but for the purpose of this study a traditional FAC is defined as the course typically taught at most universities across Western countries. The course covers the same topics in the same order in which accounting educators have taught them for decades: accounting equation, accounts, debits and credits, journal entries, posting, merchandising transactions, adjusting entries, closing entries, financial statements and so on. Class time is spent listening to lectures and problem-solving; homework consists of reading the materials from a specific text-book and solving the assigned exercises; assessment is largely objective and test for the ability to apply memorized rules to highly structured scenarios (Nelson, 1992).

Innovative FACs are considered to be all those non-traditional introductory accounting courses, at least for the purposes of the present study, which incorporate some changes in their structure although the specifics of the innovations vary between different studies. Therefore, an innovative FAC is defined as an introductory accounting course which is different from traditional courses in scope, objectives, content, sequencing, texts and materials, pedagogical techniques/teaching methods and assessment, and the information delivered. If innovative courses are successful, then they should have an effect on students’ learning outcomes, and the perceptions and attitudes held towards the AP, which are different from those resulting from traditional courses (Foster, 1995).

Several studies have investigated the effect of different innovative FACs on students’ perceptions and attitudes towards the AP. Daroca and Nourayi (1994) reviewed studies from the 1970s to the early-to-mid 1980s to determine if significant difference existed between the results of alternative methods of instruction and those achieved in more traditional approaches. Most of the studies revealed that changes in the structure of FACs had no significant effect on performance, perception or attitude of the students enrolled in accounting classes. Foster (1995) reviewed ten accounting studies that were completed concurrent with or after the formation of the AECC. Each of these studies used a model that compared an innovative teaching strategy with a more traditional one. Foster reported that six of the ten studies showed significant differences for student performance or for attitudes held towards accounting as a course major or as a profession, but their results were mixed. He concluded that the ten studies reviewed do

not present conclusive evidence that traditional vs. innovative pedagogical approaches implemented in the first course in accounting result in significant differences. Further, he stressed that the reasons for the discrepancy in the results of previous studies are, first, that students do not perceive the innovative teaching method to be meaningful and that they therefore will not be motivated to take part; and, second, that these studies assumed that the adoption of an innovation was the same as the implementation of an innovation. In other words, the studies suffered from a methodological problem.

In recent years several researchers have begun to place greater emphasis on non-traditional teaching methods such as cooperative learning, case studies and role playing (Friedlan, 1995; Caldwell, 1996; Marcheggiani, 1999; Mladenovic, 2000), and have argued that the FAC should be an introduction to accounting rather than introductory accounting (Saudagaran, 1996). The studies discussed below compared the effects of a traditional vs. an innovative teaching approach on students' perceptions and attitudes towards accounting and the AP. All studies were conducted after the pronouncements made by the Accounting Education Change Commission (AECC, 1990) on the FAC.

Nelson (1992) measured the change in attitude towards the AP for 570 business students enrolled in the FAC at five U.S universities. Four universities using the traditional accounting model and one university using an innovative approach participated in his study. The results indicated that students' attitudes played a significant role in the choice of accounting as an academic major (Nelson, 1992). He found that all students' attitudes toward the AP deteriorated during their first semester of accounting (58 per cent of subjects). Talented students (based upon their GPA scores) were more negatively affected by the first course in accounting than non talented students. The change in attitudes, based on pre-test and post-test scores, indicated that the amount of overall deterioration in attitudes was larger in the innovative course than in the traditional courses.

Friedlan (1995) examined the effect that the teaching approach used in elementary accounting courses has on Canadian business students' perceptions of the skills and abilities important for success in accounting courses and in the AP. Students enrolled in two courses that covered similar subject matter but used different teaching approaches were surveyed at the beginning and at the end of their course. One course used the traditional lecture mode and a highly technical approach to the material. The other course used a non-traditional approach that made extensive use of prescriptive mini cases and other contextual materials, used classroom discussions, stressed critical thinking skills and placed less emphasis on technical material. The results showed that

the teaching approach used in the FAC had a significant effect on students' perceptions and attitudes. At the end of the FAC students in the innovative course showed a significant positive change on 11 of the measured 25 statements. Students' perceptions in the traditional course were not significantly different for 21 of the 25 statements and adversely affected in the other four statements between the beginning and the end of their course. Friedlan concluded that students taking the non-traditional course tended to have more realistic perceptions of the skills and abilities needed in the AP. On the other hand, traditional accounting courses confirmed the negative and incorrect perceptions that students had about accounting when they entered the course, thus yielding results that are inconsistent with the objectives of the AECC.

Caldwell et al. (1996) wanted to determine the effect of cooperative learning techniques on business students' perceptions of accounting. They surveyed students enrolled in the introductory courses (Accounting Principles I, II) at the beginning and at the end of the course measuring their perceptions of accounting. Instructors used cooperative learning techniques in one half of the classes and a traditional lecture format in the other classes. Contrary to the findings of some previous research (Cohen and Hanno, 1993; Friedlan, 1995), they reported that overall students began their introductory accounting courses with positive perceptions of accounting. They found that at the end of Accounting Principles I and II students in those classes using cooperative learning were on average more likely to maintain those positive perceptions than students in the classes using a traditional approach.

Saudagaran (1996) describes an innovative approach to teaching introductory accounting to undergraduate business students. The major objectives of this innovative course are to provide students with a broad-based introduction to accounting; create an awareness of the international dimensions of accounting; inform students for the role of accounting; and dispel students' perceptions that accounting and bookkeeping are synonymous. She reported that to measure the effect of the redesigned course, she used a questionnaire only at the end of the term. Responses to the questionnaire hint that the new course is received enthusiastically by students and an overwhelming majority (74 per cent) indicated that it improved their perception of accounting.

Marcheggiani et al. (1999) investigated the effect of a Socratic teaching method vs. an interactive lecture style on students' examination performance and on students' attitudes towards the AP and the FAC. They reported that very little difference was found in students' attitudes towards the accounting course and the accounting profession, based on instructional technique. Only one significantly different statement

and two marginally significant different statements were found between the two groups. However, Marcheggiani et al. (1999) themselves questioned the internal validity of their study, saying that,

Differences in students' attitudes are difficult to measure, one primary reason being that the attitude is self-reported. Students had no special incentive to be thoughtful in these answers and though the respondents were anonymous to the instructors, students might not have believed that they were. (p.211)

Mladenovic (2000) explored the potential reasons for the limited success in changing students' negative perceptions reported in previous studies (Friedlan, 1995; Caldwell et al., 1996) and examined a more effective way of designing introductory accounting courses to change students' negative perceptions of accounting. Her study used Ramsden's (1992) "Model of student learning in context" and Biggs' (1996) "Alignment Model". Mladenovic (2000) provided an "alignment teaching/learning environment" that first clearly specified learning objectives and then the curriculum, teaching methods and assessment tasks were aligned to those objectives. She measured students' perceptions of accounting in the first accounting lecture (week 1) and at the end of the semester (week 12) to identify changes in students' initial negative perceptions and the reasons for these changes. The limitation of this study is that it used only an experimental group and that the previous studies by Friedlan (1995 and Caldwell et al. (1996) served as quasi-control groups. In contrast to other accounting studies, she found statistically significant positive changes in students' perceptions for almost all survey items in the experimental group.

Summarizing, the above studies have developed and tested innovative teaching approaches to improve students' perceptions and attitudes towards accounting. Mainly they tried to affect students' perceptions of the nature of the accounting job and the skills and abilities needed to succeed as accounting student and as accounting professional. Although these researchers' ideas for improving students' perceptions of accounting are exciting, they did not use any theoretical framework to define the concepts perceptions and attitudes and to develop the relationships between the various constructs of an ACC. In addition, they did not report how they operationalized the items used in their questionnaire. They did not prove empirically that the students' beliefs and perceptions (whether improved or not) affected their attitudes towards their accounting course and the AP generally.

3.4 Information for the accounting profession

The decline in the quantity and quality of future accountants does not appear to have been caused only by a deterioration in accounting programs (curriculum, content and teaching methods), which have remained unchanged for the last twenty years (Albrecht and Sack, 2000). Rather, the decline appears to have been driven by students' misconceptions of the attributes and outcomes associated with the AP and of the skills and abilities needed by accountants (Albrecht and Sack, 2000). Nearly twenty years ago Inman et al. (1989) claimed that,

another significant issue that must be addressed is students' perceptions of careers in accounting. The view of the accountant with the "green eye-shade" still exists for many students. This inaccurate portrayal, rather than the realities of current practice, plays an important role in the decision making process students go through when choosing a major. It is clear both academics and practitioners need to better inform students about the exciting challenges and opportunities available in today's accounting profession. (p.46)

Bougen (1994) argued that the complexity of the accountant's image derives from the interdependency between accounting and bookkeeping. Although much accounting work requires judgment, imagination and creativity, bookkeeping is boring and routine. The complexity of the accountants' stereotype and students' perceptions of the profession may be compounded by the relationship between accounting and bookkeeping, two vocations with very different attributes and outcomes, but which are at the same time interdependent. The view that students associate accounting only with money, numbers, maths and taxes, attributes that are not perceived positively by the majority of students, was also highlighted by Sale (2001). Similarly, Barsky and Catanach (2001) confirmed that many students and their parents simply do not understand how the role of accountants has changed during the past decade. Few realize that the accountant's role has evolved from traditional advisor on cost, financial and tax accounting matters to consultant on broad-based management issues, including performance improvement, human resources systems and other financial matters. Students must be aware that today accountants are valued business advisors who assist their clients and organizations with a host of strategic business services in addition to those traditionally delivered. This message of professional change must be communicated to dispel the negative perceptions historically attributed to accounting.

According to Albrecht and Sack (2000), the lack of correct information about accountants and accounting is serious because students' perceptions of accounting are not compatible with the creative, rewarding, people-oriented careers that many students

envision for themselves. Accounting is seen – even by those who choose accounting as their major and their potential career – as hard work and a good career for maths lovers. Albrecht and Sack claimed that if, because of these perceptions, we attract the wrong kinds of students, those students will not meet the needs of accounting, thus further hurting the reputation of accountants. Albrecht and Sack (2000) indicated that this lack of information is probably caused by four factors:

- Misunderstandings of what accounting careers are like by high school guidance counsellors and others
- Bad definitions of what accounting is and the kinds of skills it takes to be successful as an accountant
- High school “accounting courses” that give students the impression that accounting and bookkeeping are the same and so perpetuate the perception that accountants are scorekeepers
- Introductory accounting courses that give college students the impression that accounting is a narrow field and that accountants are only scorekeepers. (p.29)

All the above-mentioned studies clearly demonstrate that misconceptions of the AP may be discouraging many students from pursuing an accounting career. One way to end this negative trend regarding the number and quality of students recruited as future accountants is to provide them with better information about the AP and to change their misconceptions of the attributes and outcomes associated with the profession.

Metrejean et al. (2002) argued that the reality of both fiscal and time constraints has made it difficult to adopt and implement innovative educational techniques, and pointed to the need for simpler and less expensive techniques to improve attitudes held towards the AP. Several studies (see Mauldin et al., 1992; Felton et al., 1994; AICPA, 2000; Metrejean et al., 2002; Fedoryshyn and Tyson, 2003) have focussed on the need for information about the changing nature of the AP and pointed out that AE must take an active role in informing business students about the nature of the work of accountants and the opportunities available in the AP.

Cory (1992) argued that an individual’s negative stereotype of accountants might be modified when she/he acquires more accurate and extensive information about the AP and its members. Frequently, students enrolled in introductory accounting courses have decided to obtain a degree in business, but may not yet have chosen an area of specialization within business studies. Accounting faculty should emphasize career opportunities in accounting not only in the advanced accounting courses, but also in the

introductory accounting courses. Further, Cory (1992) argued that accounting educators must realize that they exemplify the AP for many students. Students who have little contact with members of the AP may base their perceptions of accountants on accounting academics. Deines (1989) criticized accounting educators for failing to attract the best and the brightest students to accounting and recommended that major recruiting efforts by the academic community must focus on the career decision-making process of high school students, college freshmen and sophomores. DeZoort and Lord (1997) supported the contention that students are placing a great degree of reliance on their accounting professors for information about accounting and career planning, while professors make only a modest effort to provide such information. Their results indicated that although accounting educators may provide students with an adequate technical foundation for a career in accounting, additional information may be needed, both inside and outside the classroom, on the “realities” of the environment of accounting work (ethical issues, staffing and professionalism). Howieson (2003) and Hunt et al. (2004) both supported the view that the widespread stereotype of accountants as “bookkeepers” is hard to dispel and should be attacked as early as possible in students’ accounting studies. According to Nelson (1992), in order to successfully compete for the best students, the AP must be actively marketed. Accurate information about the profession must be provided to dispel negative stereotypes. This implication signifies that improving students’ perceptions and attitudes should be a primary goal of accounting educators. One important forum for such efforts is the introductory accounting course sequence (Nelson, 1992; Cohen and Hanno, 1993; Geiger and Ogilby, 2000; Mauldin et al., 2000).

In summary, students spend a lot of time receiving and processing information from faculty members. The academic community could therefore play a great role in the AP’s coming evolution. If both accounting educators and accounting professionals wish to attract more capable students to the AP, it may be advisable that they do not define themselves too narrowly as preparing students to enter “the accounting profession”, meaning public practice as auditors and tax specialists. If the accounting community emphasized that there are many accounting opportunities besides traditional accounting, students’ views of their employment possibilities in the profession would be enhanced. This changed emphasis would require that advice and information for students on the realities of their opportunities in the AP be revised.

3.4.1 Accounting practitioners as source of information

While accounting faculty are best suited to developing students' skills and abilities necessary for an accounting career, professional accountants have an advantage when it comes to describing the nature, variety, work environment, challenges and rewards of practicing accounting (Mitrejean and Zarzeski, 2001). There is a substantial body of research that stressed the importance of professional accountants informing and influencing students' perceptions and expectations of the AP (Byrd et al. 1989; AECC, 1993; Davis, 1993; Violette and Sanders, 2004). Cory (1992) has suggested that educators should consider asking practitioners to speak to students in introductory classes so that as yet undecided students may become aware of the dynamic nature of the AP and the vigorous, energetic personalities of its members. Accountants should participate in presentations and workshops aimed at attracting high school students and undecided college students into the AP. Hermanson and Hermanson (1995) added that accounting practitioners must speak to high school business clubs, high school and college honour societies, college business fraternities, and other high school or college groups that may contain likely recruits. Academics could try to include a greater number of guest speakers in their introductory accounting courses and promote the meetings and speakers of accounting clubs (Mitrejean et al., 2002). The key is to take advantage of any opportunity to communicate with bright high school and college students. Personal stories or examples that illustrate the dynamic nature of accounting careers and the need for strong interpersonal skills will help to address the negative perceptions of the profession. Coleman et al. (2004) suggested that to attract students to the accounting programs, faculty members and program directors should attend career days and visit local high schools to discuss accounting in general and their accounting programs in particular, attend honours college events and offer promising students in principles of accounting courses personalized invitations to major in accounting.

The study by Nelson et al. (2002) found that many accounting students personally know an accountant, which implies that negative stereotypes of the AP may indeed influence students who do not have personal experience of positive role models to offset and dispel these stereotypes. Hunt et al. (2004) reported that personal knowledge of accountants generally resulted in more positive impressions of accountants than did accounting courses, which suggests that providing direct contact with accountants through classroom visits or special career day events may improve students' perceptions of accountants. According to Coate et al. (2003), the first step should be to change the

job description as scorekeeper when the target audience are high school juniors and seniors and college freshmen. The recruiters should be dynamic individuals that are mindful of their role in modifying the stereotype. Practitioners could redefine themselves at campus career nights or student nights at professional association meetings. This might be as simple as wearing casual business dress or taking a few minutes to banter with students about non-business issues; the goal is to come across as more gregarious and more creative. Howieson (2003) criticized the saddening trend observed over the years where the academic and practitioner communities usually do not work together.

3.4.2 Guest speakers' events

Despite the emphasis on importance of cooperation between academics and practitioners in the recruitment of capable students into the AP, only recently have several studies begun to discuss the logistics and advantages of bringing guest speakers into the classroom (Metrejean and Zarzeski, 2001; Metrejean et al., 2002) and to investigate the effect of accounting professionals' presentations on the ACC (Fedoryshyn and Tyson, 2003; Violette and Sanders, 2004).

Metrejean et al. (2002) invited CPA guest speakers to talk to students about the AP. Accounting professionals from diverse fields discussed career paths and the skills, knowledge and attitudes that make accountants successful in the global economy. They reported that for a modest investment of time and energy practitioners and academics can get together to update the image of the AP and inform students of the evolving world of accounting. Metrejean et al. (2002) reported that feedback from students indicated that guest speaker events were very beneficial, but they did not empirically determine whether these events had any measurable impact on students' perceptions, attitudes and intention to pursue an accounting major or career.

Violette and Sanders (2004) designed a new freshman-level course to inform both declared and potential majors in accounting of the diversity of exciting accounting career opportunities available. The instructor and a series of panels presented overviews of the AP and career opportunities in different areas of accounting. Informational handouts were usually distributed to supplement the presentations. Violette and Sanders (2004) reported that at the end many students agreed that the course had significantly changed their perception of accountants' work; for many students the course helped reinforce their choice of accounting as a career, and for a few students it helped them decide that accounting was not for them. Violette and Sanders did not empirically

determine whether the course had any measurable impact on students' perceptions, attitudes and intention to pursue an accounting major or career.

Fedoryshyn and Tyson (2003) examined the effect that practitioner accountants' presentations had on students' perceptions and attitudes towards accountants, the AP and careers in accounting. They administered pre- and post-course questionnaires in four sections of the introductory accounting course. In two of the four sections of the course students were exposed to two 30-minute presentations by two different groups of accounting practitioners. They reported that the results revealed that students who attended presentations displayed far more positive behavioural changes than students who did not attend. "The data reveal that students obviously felt that the presentations were a worthwhile component of the course and provided valuable insight into the accounting profession and the work that accountants perform" (Fedoryshyn and Tyson, 2003). However, statistically significant positive changes were observed in only three of the fifteen beliefs surveyed in the experimental group. In the control groups (no presentations attended) most of the changes in students' beliefs were negative, but only one was statistically significant, namely in the item that "accounting requires a lot of rule-memorizing". In addition there was a positive, statistically significant change in the item that "accountants find little personal satisfaction in their work" (2003, p.283).

Fedoryshyn and Tyson (2003) examined the changes in students' beliefs, taking a descriptive approach. Their study did not define theoretically the constructs that were posited to have been influenced by the two types of accounting courses. They did not attempt to investigate if changes in students' beliefs concerning attributes of accounting and outcomes associated with accounting had influenced students' attitudes and intentions to pursue an accounting major or an accounting career. Moreover, Fedoryshyn and Tyson did not give any information on the generation of items in their scale, nor did they report the psychometric properties of the instrumentation utilized in their study.

3.5 Chapter summary

This chapter has provided a review of the relevant literature on the role of AE in the recruitment process of future accountants. This review has argued for the importance of AE, and specifically the importance of the FAC in affecting students' perceptions of accounting and of attracting them into the profession. While there are a number of

external factors that influence the popularity of the AP, AE has its own role to play in the recruitment of capable students into the profession.

The second section of the chapter has illustrated the origin and the development of AE, stressing that AE had been delinquent in not keeping up with the changes in the AP, and as a result giving students the wrong impression of the profession. This section also stressed the fact that there have been widespread calls for fundamental changes in AE.

The third section of the chapter has highlighted the different educational strategies developed to change students' perceptions of and attitudes towards the AP. Accounting authors have investigated how changes in the structure of the FAC affect beliefs, perceptions of and attitudes towards the profession. Previous research has explored the effectiveness of various teaching approaches in encouraging more realistic perceptions of accounting as discipline, as course and as profession. The results of these studies show that while innovative teaching methods such as cooperative learning, case-based learning, etc. are more effective in changing negative perceptions than more traditional, lecture-based methods, these methods provide only limited success. The findings imply that there is a need for other approaches such as information for the AP that could be taken in the FAC which may be more effective in changing students' unfavourable perceptions of attributes and outcomes associated with the AP.

The fourth section of this chapter has described the role of information about the AP in the process of recruiting capable students during their FAC. Many researchers have supported the view that real contact with professional accountants and receiving information for them concerning the AP might help recruiting efforts. However, only one study so far has examined the effect of professional accountants' presentations on students' perceptions about accountants and the AP.

Furthermore, this chapter has argued that previous research on the effect of FAC on students' career choice has not adopted any theoretical framework to define the constructs of an ACC that are possibly affected by the type of FAC taught. It is necessary to adopt a common theoretical basis for the study of an ACC, and specifically for the investigation of the effect of a FAC on the constructs of the ACC that ultimately influences students' intention and their potential behaviours to pursue an accounting career.

The next chapter develops and proposes a new integrated theoretical framework for the study of an ACC.

Chapter 4.

THEORETICAL FRAMEWORK OF ACCOUNTING CAREER CHOICE

4.1 Introduction

The previous chapters have provided the reader with a description of the accounting profession (AP), presented research into an accounting career choice (ACC) and reviewed studies concerning the effect of accounting education (AE) on students' ACC.

The main objective of this chapter is to develop a new model which explicitly specifies all the constructs of an ACC and the relationships between them within an integrated theoretical approach. This step has been taken because what all previous studies lack is an integrated theoretical framework to examine the constructs of an ACC and any changes in them after students' first accounting course (FAC). The present work draws on the theory of planned behaviour (TPB; Fishbein and Ajzen, 1975; Ajzen, 1988, 1991); the expectancy value model (EVM; Fishbein, 1963; Fishbein and Ajzen, 1975); and the theory of work values (TWV; Super, 1957, 1970, 1981; Ros et al., 1999) to develop a theoretical model used to investigate business students' ACC.

Another objective of this chapter is to provide the main theoretical assumptions underlying the two main strategies, active participation (of the traditional FAC) and persuasive communication (information for the AP), capable of influencing the constructs of students' ACC.

This chapter is divided into seven sections. After the introduction in Section 4.1, Section 4.2 presents the dominant vocational theories and the most well-established models for career decision making. Section 4.3 justifies the need for the development of a new theoretical model, specifically for the present study. Section 4.4 presents the main theories underlying the present work and describes the process of building the new model. Section 4.5 presents the two main strategies, active participation and persuasive communication. Section 4.6 presents the hypotheses advanced and ultimately tested in the present study. Section 4.7 outlines the main conclusion of the chapter.

4.2 Theories of career development

This section examines relevant career development theories focused on the initial occupational choice of high school and college students. There is a vast literature dealing with occupational choice (Brown and Brookes, 1996). An understanding of the main theories of vocational choice and models of career choice helped the current researcher to develop the integrated theoretical model of this study.

The first fundamental career development theory can be traced to Frank Parsons, considered a pioneer in providing a scientific basis for vocational choice. Parsons (1909) developed the first theoretical framework for career decision making. He supported the view that three factors are important for vocational choice: (1) an understanding of self, abilities, interests, aptitudes, ambitions, resources, limitations and their causes; (2) knowledge of requirements and conditions of success, advantages, disadvantages, compensation and opportunities in different lines of work; and (3) true reasoning on the relations of these two groups of factors (Parsons, 1909, p.5). The context of vocational choice was broadened by a more comprehensive view in both sociology and psychology. Much sociological research supports that an individual's career choice is significantly influenced by environmental elements and structural factors such as culture, society, family, gender and educational system, and is beyond the control of the individual (Roe, 1957; Bourdieu, 1973). On the other hand, proponents of a psychological approach hold that individuals have a certain control over their choice of profession. They have argued that individuals' abilities, beliefs, attitudes and preferences affect their vocational choice (Ginzberg et al., 1951; Holland, 1959; Super, 1963). The present study investigates business students' accounting career choice, from a psychological perspective.

After more than 70 years of theorizing about career choice development and career decision making, Super (1981) concluded that the vocational theories and models of career development from psychology could be classified into three broad categories: (1) differential theories, matching people with occupations; (2) developmental approaches, leading to a match; and (3) theories focused on the process of career decision making. Specifically, Super (1981) summarized the career development theories as follows:

Differential psychologists are concerned with occupational choice, matching, and selection theories ranging from those which focus on aptitudes and interests that make for differential choice of and success in occupations, through personality theories which view infant and child development as the key determinants, to

situational or social structural theories which tend to treat social class and the opportunity structure as the principal or even sufficient determinants of occupational choice or assignment. These approaches merge, in varying degrees, in what might be called ‘socialized-individual’ approaches which themselves vary from treating the individual as the organizer of his experiences to viewing him as one is socialized to become what society wants him/her to be.

Developmental psychologists, while not rejecting differential theories, treat them as an insufficient basis for career guidance. This is because studies of life span and life space have made it clear that occupational choice or assignment is not something that happens once in a lifetime on leaving school. These theories hold that people and situations develop, and that a career decision tends to be a series of mini-decisions of varying degrees of importance. They hold that these mini-decisions add up to a series of occupational choices which represent flexible maxi-decisions.

Cognitive psychologists, on the other hand, are concerned with the processes in which the mini- and maxi-career decisions are made. Construed first as a theory of differential determinants and then as a theory of developmental stages at which determinants must be considered, career decision making (CDM) theory has broadened to include decision processes, both descriptive and prescriptive. The CDM theories discuss the dynamic interaction of individual and environmental influences on the career decisions made throughout an individual’s life span. (pp. 38-39; emphasis in original / added)

4.2.1 Differential theories to match people and occupations

These theories have their roots in Parsons’ (1909) “matching men and jobs” approach. Counsellors and educators focused on matching individuals and occupations during the early twentieth century (Brown and Brooks, 1990). Supporters of such an approach posit that a vocational choice would occur as a result of a straightforward matching of an individual’s personality, aptitudes and interests with specific vocational occupations (Parsons, 1909; Williamson, 1939; Roe, 1957). Holland (1966, 1973, 1997) developed the most popular and most used structural theory – the trait-factor theory – to predict the characteristics of individuals and environments that lead to positive or negative vocational outcomes, as well as the characteristics that lead to vocational stability. Holland’s theory was based on the argument that vocational career choice is an expression of one’s personality, and therefore persons within an occupation are similar. According to Holland, there are six personality types and individuals may be categorized as belonging to one or more. The six distinct types are: Realistic, Investigative, Artistic, Social, Enterprising and Conventional, and each personality type is thought to demonstrate a particular set of skills and values and thus to predict preferences for particular vocational activities. Environments were also categorized, determined by the vocational personality type of the preponderant individuals within the

environment. The person and the environment come together “when people search for environments that will let them exercise their skills and abilities, express their attitudes and values, and take on agreeable problems and roles” (Holland, 1997, p.4).

Thus, it is important for individuals to know their personality types and the characteristics of occupations. Individuals seek environments which match their type. Matching the two is known as congruence; individuals are in a congruent occupation if that occupation is the same as, or close to their vocational type. Congruence has been linked to academic performance, persistence in school and job satisfaction (Spokane, 1985; Tranberg et al., 1993; Holland, 1997). Students in the process of moving from school to work need to know themselves and know about different occupations in order to decide on those occupations that are likely to be congruent for them. Developmental behavioural theorists have criticized the matching model for being too static. Although it is very effective in matching individuals to careers, it does not attempt to explain the complexities and the different stages of career development. Trait-factor theories do not explore vocational choice over time, and they are considered psychologically atheoretical.

4.2.2 Developmental theories

The idea of career identity as a developmental process began to emerge in the 1950s and 1960s (Seligman, 1994). Proponents hold that career development is a continuous and irreversible process and is manifested in a sequence of vocational behaviours occurring throughout an individual’s lifetime (Ginzberg et al., 1951; Super, 1953; Tiedeman and O’Hara, 1963; Crites, 1969). They have stressed the importance of an individual’s abilities, interests and values, and the interactions of the individual with her/his environment. Career development begins early in life with children developing skills and interests in different career fields (Isaacson and Brown, 1997; Seligman, 1994). Development continues throughout adolescence and adulthood and at times into old age as older individuals seek new career experiences after retirement. The efforts to systematically conceptualize the developmental theory of career choice shifted from an emphasis on the choice of an occupation to the process of choice. Vondracek et al. (1986) indicated that individuals are always changing and developing and are not easily placed into structured categories.

One of the most influential and widely utilized developmental theories is Super’s life-span, life-space theory (Seligman, 1994; Isaacson and Brown, 1997). Super (1953), based on Ginzberg’s idea of a life-span developmental approach, has proposed that the

central aspect is one of individuals seeking to implement their self-concept. This implementation is a function of progressing through six life stages:

- exploration (childhood and adolescent development of the self concept);
- reality testing (the transition from school to work and early work experiences);
- trial and experimentation (attempts to implement the self-concept by staking out a career);
- establishment (implementing and modifying the self-concept in the middle career years);
- maintenance (preserving and continuing to implement the self-concept);
- decline (new adjustments of the self-concept following termination of one's occupational role).

Each of the life stages is characterized by a set of vocational developmental tasks. An individual's progress in mastering the tasks through the stages describes her/his vocational maturity. Super's (1990) theory regards learning experiences as pivotal to the development of career-related personality variables, such as needs, work values and interests. According to Super (1969), each person has a different set of work values, drives and motivations that are influenced by childhood experiences and serve as an initial set of goals that impinge on the process of choice. Super (1970) introduced his theory with 15 postulates/work values as part of a "work value inventory" (WVI). Super's theory does not follow a strict pattern or an exact career choice (Brown and Brooks, 1990), but through these 15 work values he shows that individuals can and do change their career choices and preferences. In addition, he suggested that a variety of people can be suited to a particular job and that one person can do a variety of jobs.

However, developmental theories have their limitations (Brown and Brooks, 1990). They lack precision concerning the explanation of learning mechanisms in career choice. They imply a sequential and linear career path, which reflects the nature of work in the 1960s, as people clearly did experience work in this way. In the modern work environment, not every person fits the characteristics of each stage of career development and not every person progresses through all stages in a fixed sequence. Proponents of the developmental perspective on vocational behaviour emphasize a life-span view, but the theory offers little information about how a vocational decision is made (Phillips and Paziienza, 1988). Therefore, the efforts to systematically conceptualize the developmental theory of career choice has shifted from an emphasis on the choice of a particular occupation to the process of such choice.

4.2.3 Cognitive vocational developmental models

Researchers offer robust and parsimonious models of the process of vocational career choice. Applications of career decision-making theories have been developed to explain the actual process of choosing a vocation. Over the past 50 years, designers of many models (Gelatt, 1962; Vroom, 1964; Katz, 1966; Krumboltz, 1979; Gati, 1986; Lent et al., 1994; Sauermann, 2004) have attempted to define the process by which vocational decisions are made. The models reviewed here give a particular emphasis to vocational alternatives, work values, strategies involved, and to mechanisms and learning experiences/new vocational information. Furthermore, although career developmental models have emerged from different intellectual traditions (Weiner, 1992), this study has focused on those that are most closely linked to behavioural decision making and the expectancy-value perspective.

Gelatt (1962) combined a prediction system with a value system and decision criteria to make up the process of career decision making. In Gelatt's model, an effective decision depends on the collection and use of relevant and reliable information, the decision makers' responsibility to choose, and a rational and heuristic process. An individual assesses possible alternatives and certain potential actions based on her or his needs and preferences. The choice will be determined by the decision criteria which are derived from the individual's assessment of alternatives and values. The decision process will continue to recycle more information gathered until a satisfactory career choice is made.

Vroom (1964) suggested a method that used algebraic expressions to determine how valence and expectancy produce forces leading to action and decision. He provided a cognitive decision-making model in which occupational preference, an affect, is explicitly distinguished from occupational choice. He asserted that in his model the probability of a person's career choice is a direct mathematical function: the valence (an affective orientation towards particular outcomes) times the expectancy of success. The outcome will determine whether a person's choice will move towards the desired decision or away from the disliked alternatives. Basic elements in this model include occupational preference, morale, need achievement, group cohesiveness, job satisfaction and motivation for effective performance.

Katz (1966) focused on the role of values rather than alternatives. Katz's model applies a statistical or mathematical formula to code the importance of values so that the desirability of various alternatives can be established. Available career information is

relevant to the coded value dimension. The best decision is determined by the alternative which has the greatest expected numerical value and information associated with that occupation.

In this model, individual values are treated as the major synthesizing force in self-concept and the major dynamic force in decision-making. Katz (1966) stated that “values order, arrange, and unify the individuals’ perceptions of traits and social forces, then muster these perceptions for a particular decision or for a mode of choosing”. In brief, the model attempts to combine three systems of data: a value system, an information system and a prediction system. There are unsolved problems in handling each of these systems.

Krumboltz (1979) developed the Social Learning Framework, a model or framework of career decision making, as derived from Bandura’s (1977) social learning theory of behaviour. According to Krumboltz, individuals develop strategies involving cognitive skills and emotional predispositions for coping with the environment, interpreting it in relation to self-observation generalizations, and making covert and overt predictions about future events. The process of career decision making is determined by four categories of influence: environmental conditions and events, personal background, learning experiences, cognitive and emotional responses and coping strategies. The most essential concept in Krumboltz’s model is that individuals acquire their career preferences and related coping strategies from external and internal forces through a variety of learning experiences.

Gati (1986) developed a sequential elimination model of career decision making, which is an adaptation of Tversky’s (1972) elimination-by-aspects theory of choice. In Gati’s model, each occupational alternative is viewed as a set of aspects, and at each stage an aspect is selected according to its importance, and alternatives lacking the selected aspect are eliminated. This process continues until only few alternatives, or a single alternative, remain.

Lent et al. (1994) presented a social cognitive framework of vocational interest development, choice and performance. They tried to present a unified career theory development. Drawing on Bandura’s (1986) general social cognitive theory, they illustrated the complex interplay between self-efficacy, expected outcomes and other key personal variables as socioeconomic factors, support systems and experiential / learning factors in people’s life career development. The main emphasis of this vocational model was placed on the self-efficacy construct. The authors intended to highlight mechanisms that may help shape career-related interests and selections in

specific life periods as late adolescence and early adulthood. Lent et al., (1994) postulate that the interaction between goals, interests, outcome expectations and self-efficacy involves complex and interweaving interactions. Furthermore, they supported the argument put in the present study that interest in a particular academic or career-relevant activity depends, in part, on the outcomes that are anticipated to result from participation in the activity, along with the relative value or importance of these outcomes to the individual.

Sauermann (2004) proposed a new model of vocational choice that can be used for analysing and guiding the motivational and cognitive processes underlying career and job choices. This model draws on research in behavioural decision making and involves two major processes: (1) the selection of a decision strategy according to four choice goals: maximizing decision accuracy, minimizing cognitive effort, minimizing negative emotion and maximizing justifiability of the decision; and (2) the construction of situation-specific preferences, which can reflect irrelevant tasks and contextual factors such as evaluation mode. This model was extended to account for the role of social influences and the long decision time that can affect the decision process and choice making.

All of the models presented above are concerned with the development of career decision making and the process of choice between alternative careers. Most of these models of career choice have focused on the importance of motivational beliefs, values, preferences, goals, self-efficacy, intentions and learning experiences/career information in the career decision-making process.

4.2.4 Justification for development of new integrated theoretical framework

Theories of occupational choice (Super, 1957, 1970, 1973; Holland, 1973) and general models of career decision making (Gelatt, 1962; Vroom, 1964; Katz, 1966; Krumboltz, 1979; Gati, 1986; Lent et al., 1994; Sauermann, 2004) have concentrated on a macro level of analysis. When the dependent variables are such as the general type of occupation entered, or the developmental pattern of vocational behaviour, then it is clear that theories will have to include such constructs as vocational personality types, individual characteristics, personal influences, vocational interests and preferences, vocational self-concept and goals. However, there is an identifiable need for process theories at a micro level, which account for specific occupational attitudes, intentions and behaviours at any one point in time (Herriot and Ecob, 1979).

The above descriptive and prescriptive vocational models represent innovative developmental approaches in the investigation of career decision making. However, these models suffer from several limitations if they were to be used in this study.

- The first limitation is that most of the models are general models for the study of the whole process of any career choice. These career decision-making models are designed to address the issues involved in how and why people choose and enter particular occupations in general over a long period of time; they are not designed to examine a specific career choice at selected points in people's career lives.
- The second limitation is the lack of a general theoretical framework to specify all the constructs and the relationships between them in a specific career decision-making process.
- Finally, none of these models has determined how new learning and informational experiences (e.g., traditional accounting course and innovative accounting course) affect the constructs of a specific career decision-making process and ultimately the intention to pursue a specific career.

This study does not attempt to look at or explain the broader picture of accounting career development; it is focused only on one stage of the process of management students' ACC and tries to explain their ACC during this stage (i.e., in their first academic semester). It has been affirmed by many accounting academics that the first academic semester of business students' studies is a significant moment in their career lives (Hermanson et al., 1995; Wilson and Mason, 1995; Mauldin et al., 2000). As this study seeks to investigate the vocational constructs involved in the ACC and how these constructs are affected by a traditional and an innovative FAC respectively, a more specific theoretical framework is needed to define these constructs and their effect on students' intentions to pursue a career in the AP. This study has adopted the theory of planned behaviour, the expectancy value model and the theory of work values to identify the constructs of ACCs, and to examine any changes in these constructs after students have had new experiences of learning accounting and received vocational information about accounting.

As Robins (1993) stated, the numerous theories offered to explain human motivation are not necessarily in competition with each other. Various theoretical approaches and models are suitable for explaining different types of behaviour on a continuum ranging from the broad to the specific (Landy and Becker, 1987). While

other sociological and psychological theories and models may be useful for counselling or studying career development over the working life of an employee, the new integrated theoretical framework developed in and for this study is particularly appropriate for investigating and analysing changes in beliefs, subjective norms, attitudes, perceived controls and intentions towards a specific profession (i.e., the AP), over a specific period of time (i.e., the first academic semester).

The following section presents the theory of planned behaviour, the expectancy-value model and the theory of work values. In addition, it presents the integrated theoretical model developed in the study.

4.3 Development of theoretical framework of the study

One of the characteristics that defines well-established theories of career choice is integration, the ability to combine all necessary components in the same system, forming a whole that allows the use of multimodal input and the subsequent presentation, transformation, technical processing and explanation of this multimodal information (Brown and Brooks, 1990; Lent et al., 1994).

Vocational theorists and researchers have identified the need for integrated theories and models of career development, particularly as they apply to a specific population and at a particular point of time in the selection of a specific profession (Osipow, 1990; Ros et al., 1999).

The new model used in the present study is primarily based on the theory of planned behaviour developed by Ajzen (1988, 1991). The theory of planned behaviour is a general theoretical model which emphasizes the specific process involved in making a choice and identifies the components involved which individuals use to make choices. The expectancy-value model (Fishbein, 1963) is used to conceptualize the attitudes held towards the AP. Then the theory of work values (Super, 1970, 1973, 1981, 1995) helps in the conceptualization and operationalization of specific beliefs regarding attributes and outcomes associated with the AP and their evaluative component. This model integrates and extends the above theories and presents a new theoretical framework for the measurement of vocational beliefs about, and attitudes and intentions towards, a specific profession.

4.3.1 Theory of planned behaviour

The theory of planned behaviour (Fig. 4.1) is an extension of the theory of reasoned action (Fishbein and Ajzen, 1975, 1977; Ajzen and Fishbein, 1980) and has had broad application in explaining the dynamic process of behaviour. The theory proposes that an individual's behaviour is ultimately determined by the intention of an individual to perform a given behaviour. Intentions are assumed to capture the motivational factors that influence a behaviour (e.g., ACC). The stronger the intention to engage in a particular behaviour, the more likely should be its performance. In broad terms, this theory has been found to be well supported by empirical evidence (Ajzen, 1991).

The theory of planned behaviour postulates three conceptually independent determinants (antecedents) of behavioural intention:

- The first determinant is *a social factor termed subjective norm*; it refers to the perceived social pressure to perform / not perform the behaviour in question.
- The second determinant is *the attitude towards the behaviour* and refers to the degree to which a person has a favourable or unfavourable evaluation or appraisal of the behaviour in question.
- The third determinant is *the degree of perceived behavioural control*, which refers to the perceived ease or difficulty of performing the behaviour (Ajzen and Fishbein, 1980).

As a general rule, the more favourable the attitude and subjective norm with respect to behaviour, and the greater the perceived behavioural control, the stronger should be an individual's intention to perform the behaviour under consideration (Ajzen, 1991).

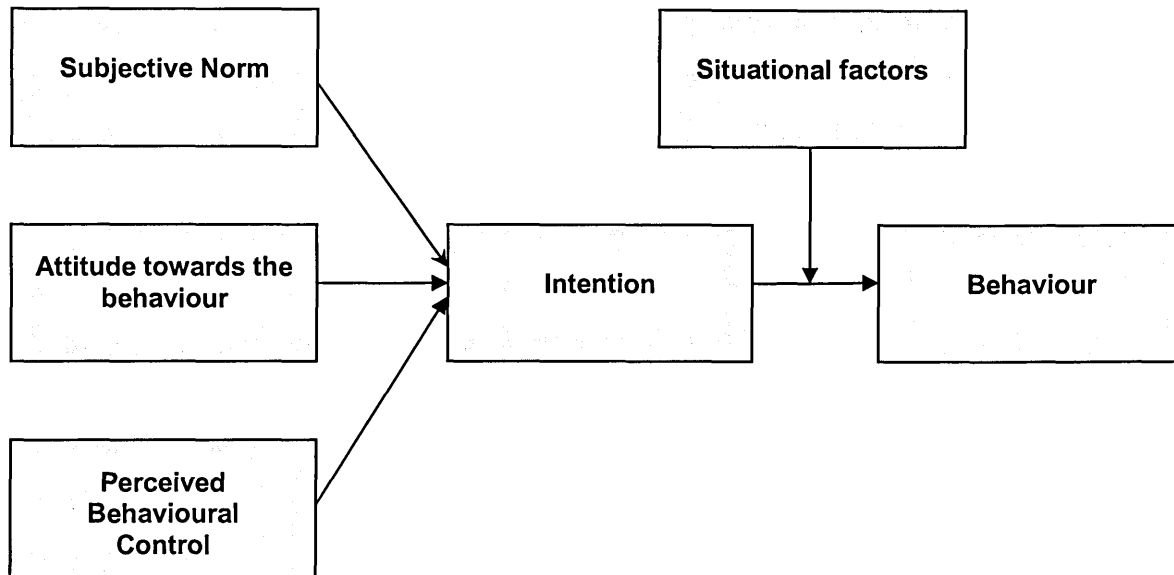


Figure 4.1: Theory of Planned Behaviour

Theoretically, socially expected mode of conduct (subjective norm), personal evaluation of a behaviour (attitude), and self-efficacy with respect to the behaviour (perceived behavioural control) are very different concepts, each of which has an important place in behaviour. The distinction between subjective norm, attitude and perceived behavioural control constructs, especially between attitude and subjective norm (behavioural and normative beliefs), has sometimes been questioned (Miniard and Cohen, 1981; Miniard and Barone, 1997). The large number of studies that have used the theory of reasoned action and the theory of planned behaviour has clearly established the utility of the distinctions by showing that the above different constructs stand in predictable relations to intention and behaviour (Ajzen, 1991).

This model provides a psychological framework which has proven useful in explaining many types of behaviour (Ajzen and Fishbein 1980; Reinecke et al., 1996; Armitage and Conner, 2001; Hrubes et al., 2001; Tonglet, 2002). Several authors have used the theory of planned behaviour as a general theoretical framework to examine career choice (Strader and Katz, 1990; Krueger et al., 2000; Daly, 2005). A limited number of accounting studies have investigated the choice of an accounting major using the theory of planned behaviour (Cohen and Hanno, 1993; Allen, 2004; Tan and Laswad, 2006). The difference between the present study and previous accounting studies is that it conceptualizes and operationalizes the attitudes towards pursuing an accounting career using the theory of work values. To the best of the current writer's knowledge, this study identifies all the different dimensions and sub-dimensions of

attitudes held towards pursuing an accounting career for the first time. Secondly, this study uses the TPB to examine changes in students' subjective norm, attitude and perceived behavioural control and intention to pursue a career in the AP after completing either a traditional or an innovative FAC.

The theory of planned behaviour, despite its limitations, remains the best and most widely-used theory of motivation, and seems more suitable than other vocational choice models as a general theoretical framework for the examination of the constructs of an ACC and also for the investigation of the effect of a traditional and an innovative accounting course respectively on these constructs.

4.3.1.1 Subjective norm

Subjective norm is the perceived social pressure to perform/not perform the specific behaviour. It is assumed that the subjective norm is determined by the total set of accessible normative beliefs concerning the expectations of significant referents (Ajzen, 1991). Specifically, the strength of each normative belief (n_i) is weighted by motivation to comply (m_i) with the referent in question, and the products are aggregated, as shown in the following equation:

$$SN = \sum n_i m_i$$

Where

SN= the total subjective norm towards some object or behaviour;

n_i = the belief of referent i about the object or behaviours' attribute;

m_i = the motivation to comply with the referent in question (Fishbein, 1963; Ajzen, 1991).

Normative beliefs are concerned with the likelihood that significant referents, individuals or social groups, approve or disapprove of performing a specific behaviour. It is assumed that these normative beliefs – in combination with the person's motivation to comply with the different referents – determine the prevailing subjective norm. The normative component of the theory has been found to be the weakest predictor of intention in the theory of planned behaviour (see van den Putte, 1991) and has attracted criticism for its narrow conceptualization (Terry and Hogg, 1996). Recently, self-identity has been proposed as an extension to the normative component of the TPB (Armitage and Conner, 1999). This study has used the traditional approach of the TPB

to conceptualize and operationalize the constructs of normative beliefs and motivation to comply.

4.3.1.2 Attitude and expectancy value model

Attitude is relevant to the behaviour but holds no privileged position with regard to it. Attitude does not determine behaviour directly; rather it influences behavioural intention, which is an immediate antecedent of action. Attitude is not the only determinant of intention, subjective norm and perceived behavioural control, as they all contribute to the formation of a behavioural intention. However, a number of researchers in different disciplines have reported that attitudes towards the various behaviours made significant contributions to the prediction of intentions, whereas the results for subjective norms and perceived behavioural control were mixed (Ajzen, 1991).

In the wider field of attitude research there is significant debate regarding the definition and components of attitudes. Throughout the 1960s and 1970s, the dominant explanations of attitude formation and change were based on cognitive factors. In the 1980s, belief-based views of attitude formation and change were challenged (Fishbein and Middlestadt, 1995), and a number of researchers postulated a variety of “cognition-free” processes of attitude formation and change. According to these researchers, an attitude is comprised of three parts: the affective component, the cognitive component and the behavioural component (Cohen and Areni, 1991; Petty et al., 1991; Eagly and Chaiken, 1993). Fishbein and Middlestadt (1995) presented more evidence that overall attitudes are indeed based on cognitive beliefs and their associated evaluations. When cognitive variables as beliefs are appropriate predictors of a given criterion variable, these predictors will account for most of the variance in the criterion variable (attitude). Non-cognitive variables or other factors will explain little, if any, variance in the criterion. Therefore, a good predictor of attitudes must:

- be theoretically correct and valid (theoretically consistent);
- be based on a full set of salient attributes, qualities, characteristics and outcomes;
- be based on measures or constructs that are beliefs;
- be using a correct combination rule of beliefs; and
- correspond (in terms of action, target, context, time) to the criterion.

Furthermore, Fishbein and Middlestadt argued that when no cognitive factors are sometimes found to have a direct effect on attitudes, this is due to methodological artefacts. A torrent of replies has challenged this conclusion, reaffirming the idea that cognitive beliefs are only one possible influence on attitudes (Haugtvedt, 1997; Priester and Fleming, 1997; Schwarz, 1997). However, most contemporary psychologists take a cognitive or information-processing approach to attitude structure and formation (Ajzen, 1991, pp.191).

Although there is no single universally accepted structure and formation for attitudes, this study adopts this approach, i.e., that attitude is a function of cognitive beliefs and the values or utilities associated with those beliefs. This approach is exemplified by Fishbein (1963) and Fishbein and Ajzen (1975) in the expectancy-value model of attitudes. The expectancy value-model will serve as a conceptual framework for attitudes towards the AP in this study. It is of interest to note that other theorists on attitude have arrived at similar formulations of attitude in attempts to account for overt behaviour (Tolman, 1932; Edwards, 1954; Rosenberg, 1956; Atkinson, 1957; Vroom, 1963; Feather, 1982, 1990, 1992).

According to the most popular conceptualization of attitudes, the expectancy-value model, each belief associates the object with a certain attribute, and a person's overall attitude towards an object is determined by the subjective value of the object's attributes in interaction with the strength of the associations (Ajzen, 2001).

Thus to arrive at a valid measure of attitude (towards an object or behaviour) based on a cognitive structure we must:

- Identify the salient attributes (or outcomes) associated with the object or behaviour;
- Assess the strength of individual's beliefs that the attributes are associated with the given object or behaviour (behavioural beliefs);
- Assess the evaluation of the attributes and outcomes;
- Finally create a sum of the products formed by multiplying the strength of each belief by its evaluative aspect.

Therefore, a person's attitude towards a given object (or behaviour) is a function of her/his beliefs about that object (or behaviour) and the implicit evaluative responses associated with those beliefs:

$$A = \sum b_i e_i$$

Where

A= The attitude towards some object or behaviour;

b_i = The belief i about the object or behaviours' attribute (cognitive behavioural beliefs),
i.e., the subjective probability that the object is related to attribute or outcome i ;

e_i = The evaluation of an attribute or outcome i (affective behavioural beliefs) (Ajzen, 1991; Fishbein 1963).

The diagram in Figure 4.2 presents the intercorrelation between Cognitive beliefs, Attitudes, Intention and Behaviour.

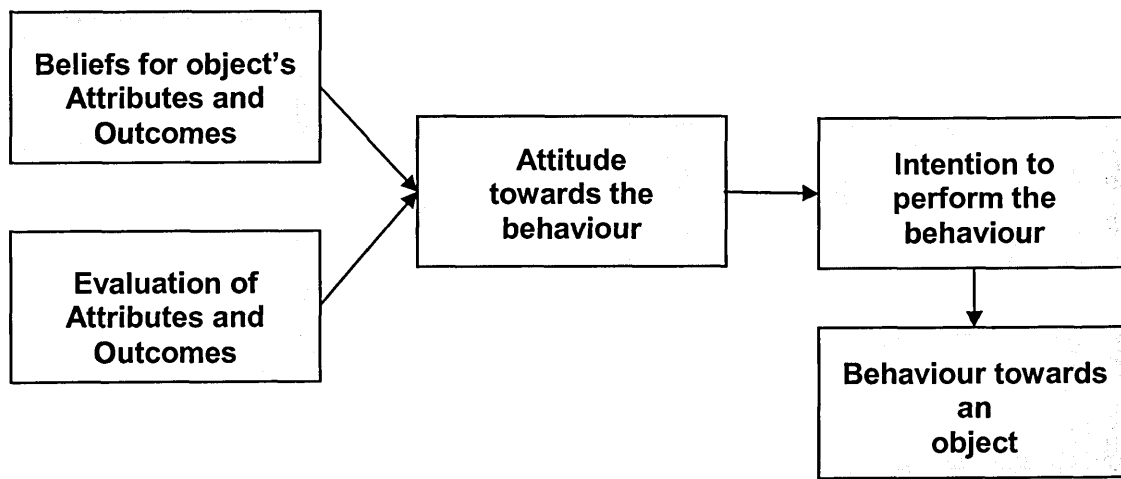


Figure 4.2: Cognitive beliefs, Attitudes, Intention and Behaviour

Furthermore, Fishbein (1967) has supported the view that:

1. The causal chain does not run attitude-behaviour but rather attitude-intention-behaviour;
2. An expectancy value measure of attitude has to take into account the following:
 - the beliefs assessed are salient;
 - the beliefs relate to the behaviour not an object;
 - the behaviour is specified with respect to context, time and place; and
 - the attitude is measured at the same level of specificity as the behaviour.

Although a person may hold a large number of beliefs about any given object, it appears that only a relatively small number of beliefs serve as determinants of the

person's attitude at any given moment (Fishbein, 1967). It can therefore be argued that a person's attitude towards an object is primarily determined by no more than six to ten beliefs at a given point in time. It is possible for more than ten beliefs to be salient and to determine a person's attitudes – given time and incentive, a person may take a much larger set of beliefs into account. It is impossible to determine the distinction between salient and non-salient beliefs. Recommending the use of the first six to ten beliefs is therefore merely a rule of thumb. Salient beliefs are also subject to change; they may be strengthened or weakened or replaced by new beliefs (Fishbein and Ajzen, 1975).

The theory of work values (Super, 1957, 1970, 1981) will serve as a conceptual framework for the cognitive beliefs concerning attributes and outcomes associated with a specific vocational choice (the AP) and the evaluative component of these beliefs (see Section 4.3.2).

4.3.1.3 Perceived behaviour control

Perceived behaviour control refers to an individual's perception of her/his ability towards the behaviour. It is assumed that perceived control is determined by the total set of accessible control beliefs, i.e., beliefs about the presence of factors that may facilitate or impede the behaviour. Specifically, the strength of each cognitive control belief (c_i) is multiplied by the perceived power (p_i) of the control factor, and the products are aggregated, as shown in the following equation:

$$PC = \sum c_i p_i$$

Where

PC= The total perceived control towards some object or behaviour;

c_i = The control belief i ;

p_i = The perceived importance for the control belief i (Ajzen, 1991; Armitage and Conner, 1999).

Cognitive control beliefs have to do with the perceived presence of factors that may facilitate or impede their performance of the behaviour. It is assumed that these control beliefs in combination with the perceived importance of each control factor determine the prevailing perceived behavioural control. These control beliefs may be based in part on past experience with the behaviour or they will usually also be influenced by second-hand information about the behaviour, by the experiences of acquaintances and friends,

and by other factors that increase or reduce the perceived difficulty of performing the behaviour in question (Ajzen, 1991).

The perceived control construct towards the behaviour has attracted criticism (Armitage and Conner, 1999). Terry (1993) has argued that Ajzen's conceptualization of perceived control construct is overly simplistic. In addition, several studies have found weak internal reliability of items designed to measure the perceived control construct (Beale and Manstead, 1991). Ajzen (1991) suggests that cognitive control beliefs are synonymous with the self-efficacy component of Bandura (1986). Bandura (1986, p.2) defines as self-efficacy "beliefs in one's capabilities to organize and execute the courses of action required to manage prospective situations". These beliefs of personal competence affect future behaviour. Self-efficacy refers to a person's expectation regarding her/his capability to perform the behaviour. It does not reflect a person's skills but rather one's judgement of what one can do with whatever skills one possesses. Self-efficacy relates to beliefs about capabilities of performing specific behaviours in specific situations (Vries et al. 1998).

In this study cognitive control beliefs have been conceptualized as self-efficacy beliefs (Pazares, 1996) and perceived importance of the control factor as evaluation of the importance of possessing relevant vocational self-efficacies in order to pursue any profession (Ajzen, 1991; Armitage and Conner, 1999).

4.3.2 Theory of work values

In their review of the job satisfaction literature, Hoppock and Super (1950) observed that generalized expressions of job satisfaction tended to relate to expressions of satisfaction with specific beliefs people hold about their work, such as earnings, hours worked, advancement, opportunity to find a job, opportunity to help others, independence and others. Super (1957), in his book about the psychology of careers, named similar work attributes as Hoppock and Super (1950) did that may be differentially valued, terming these aspects-job characteristics "work values".

A discussion of work values appropriately begins with an examination of the values concept itself (Dose, 1997). The concept of values has been defined and measured in a variety of ways, depending on the research objectives and theoretical background (Dose, 1997; Meglino and Ravlin, 1998; Roe and Ester, 1999). Rokeach (1973, p.5) defines a value as an "enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence". Posner et al. (1985, p.3) have defined values

as “general standards by which we formulate attitudes and beliefs and according to which we behave”. Schwartz (1992, p.2) defines values as “desirable goals varying in importance that serve as guiding principles in peoples’ lives”. The common theme of these definitions is that values influence behaviour.

Values researchers support the importance of research on values as opposed to attitudes (Dose, 1997). Rokeach (1968) has argued that values occupy a more central position in the cognitive system and personality make-up of individuals, determine attitudes and are more closely linked to motivation. A value does not correspond to a particular object or behaviour, whereas attitudes are attached to specific objects or behaviours. Values are criteria, but attitudes are not. Whereas attitude research has been based on analyses of psychological processes, specifically attitude change, value research has focused largely on content (Eagly and Chaiken, 1992). Notwithstanding the debate over the relative merit of or distinctions between values and attitudes, attitude research can still be applied to values specifically (Dose, 1997). Both can be measured on a continuum from general to specific, with values being more general than attitudes and not corresponding to a particular situation. Values are more consistent than attitudes across both time and circumstances (Rokeach, 1968). The study of values provides the potential for relatively more interdisciplinary collaboration since values play a role throughout the social sciences and management and individuals have fewer values than attitudes (Rokeach, 1968). In line with the arguments noted above, it seems that the application of work values research to vocational attitudes and the opposite would be beneficial both for work values and for specific vocational attitudes research.

Work values are a specific context of the human values of complex work organization. Vocational researchers consider work values as broad tendencies to prefer certain job characteristics, outcomes or features of work environments (Lofquist and Dawis, 1971; Super, 1973; Pryor, 1982; Hofstede, 1998), while some others define them as desirable modes of vocational behaviour (Meglino and Ravlin, 1998). On a conceptual level, one focus has been on work values as job preferences (Pryor, 1979, 1981) or as derived from needs (Super, 1973). Hofstede (1998) suggests that work values can be operationalized as the extent to which people assign importance to several general job characteristics thinking about an ideal job. Dose (1997, p.2) summarizes and defines work values as “...evaluative standards or criteria relating to work or to work environment by which individuals discern what is right or assess the importance of preferences”. In summary, in vocational theory work values are defined as standards or criteria for choosing goals or evaluating activities and attributes or outcomes relating to

work (Lofquist and Dawis, 1971; Super, 1973; Pryor, 1982; Dose, 1997; Hofstede, 1998; Meglino and Ravlin, 1998).

Work values and vocational attitudes can be learned either through direct experience or through influences by significant others (Fazio and Zanna, 1981). Vocational theorists propose, implicitly or explicitly, that work values formulate and develop through the influences of personality, family, culture, society and educational and work experiences (Rokeach, 1973; Brown and Crace, 1996). It is important to note that in a modern society work values are typically considered as salient, basic and influential (England, 1991; Sverko, 1995). The predominant view of work value formation, along with most research into vocational choice, implies that work values and aspirations take shape during childhood and adolescence. According to this view, some researchers support the proposition that students enter the transition to adulthood with well-defined general work values and orientations. However, growing evidence indicates that work values and occupational aspirations change considerably during adolescence and the young adults' years (Jacobs et al., 1991; Shu and Marini, 1997; Rindfuss et al., 1999; Johnson, 2001a, 2001b).

The role of work values in the career decision-making process has been examined by many researchers (e.g., Rosenberg, 1957; Super, 1957, 1970, 1990; Raths, Harmin, and Simon, 1966; Rokeach, 1973, 1977; Brown, 1995; Kinnier, 1995; Super and Sverko, 1995; Super, Savickas and Super, 1996). As early as 1957, Rosenberg examined the role of work values in college students' occupational choice. Later, Dawis and Lofquist (1984) referred to work values as "standards of importance for the individual". These standards influence choice of work environment and ultimately, level of satisfaction. These early vocational psychology conceptions were platforms for research on the relation of work values to occupational choice.

Zytowski (1970) raised the question of how many work values there are. The obvious answer is: as many as there are identifiable aspects of work. Work value researchers have assumed that a limited number of broad orientations towards work underlie people's ideas of what is important to them when making occupational choices. The most popular current applications account for between 10 and 22 different work values. Three initial research programs have presented conceptualizations of work values and developed instruments that measure what they define as the work values domain, the Work Values Inventory (Super, 1970), the Minnesota Importance Questionnaire (Lofquist and Dawis, 1971) and Work Preferences (Pryor, 1979, 1981).

Super (1970) has conceptualized the work values as goals that one seeks to attain to satisfy a need. He has argued that they may be satisfied by more than one specific occupation. Therefore values derive from needs and are more general than vocational interests. He has developed the best-known instrument for assessing work values, the Work Values Inventory (WVI) with six broad work values (material success, altruism, conditions and associates, creativity, achievement-prestige and independence-variety) and 15 individual work values. Later, Nevill and Super (1989) developed the Values Scale, an American version of the Work Importance Study (WIS, 1980), which measures 21 individual work values; however, this measurement has not received as much mention as the WVI.

Lofquist and Dawis (1971) have conceptualized values as needs along a dimension of importance for different individuals. They have developed the Minnesota Importance Questionnaire (MIQ) that presents six work values as criteria for occupational choice such as safety, autonomy, comfort, altruism, achievement and money.

Pryor (1979) renamed the work values as job preferences, as he viewed work values as what individuals like or prefer from a job in general. He has developed the work aspect preference scale (WAPS; Pryor, 1979, 1981, 1983) and has identified 13 work values, such as independence, co-workers, self development, creativity, money, life style, prestige, altruism, security, management, detachment, physical activity and surroundings.

Work values researchers have sought to identify a set of general broad types of work values (Ginzberg et al., 1951; Elizur et al., 1991; Marini et al., 1996; Ros et al., 1999). Despite a plethora of different labels, most work value researchers appear to identify the same two or three broad categories of work values: intrinsic or self-actualization values, extrinsic or security or material values, and social or relational values (Ros et al., 1999). The most widely used approach classifies work values as intrinsic or extrinsic, but the adequacy of the intrinsic-extrinsic dichotomy has been questioned. Ginzberg et al. (1951) formulated three categories: extrinsic satisfactions in the form of rewards (money and prestige), concomitants of work (social and environmental) and intrinsic satisfaction (pleasure in the activity and in the accomplishment of specific ends). Herzog (1982) and Marini et al. (1996) distinguished among seven types of work values: Extrinsic, Security, Intrinsic Influence, Altruistic, Social and Leisure work rewards.

A recent innovation in the classification of work values into broad categories is that of Ros et al. (1999). According to Ros et al. (1999), work values can be classified in four general types of work values, each parallel to one of the four higher-order basic types of general values:

- **Extrinsic** work values express conservation values: job security, salary, other economic benefits and work conditions.
- **Intrinsic** work values directly express openness to change values: the pursuit of autonomy, interest, personal growth, meaningful work, and creativity in work.
- **Prestige or image** work values express self-enhancement values: advancement, status, image, authority, management, influence and power in work.
- **Social or altruistic** work values express the pursuit of self-transcendence values; work is seen as a vehicle for positive social relations and contribution to society.

Some other vocational theorists have identified the distinctive prestige or power or image work value category (O' Connor and Kinnane, 1961; Pryor, 1987; Johnson and Elder, 2002). The distinct type of work values, prestige work values (advancement/promotion, business decision making and social status of accountant) is perceived as very important by business students, accountants and accounting educators when they choose the profession and it is an important factor that affects perceptions and attitudes towards the AP (AICPA, 2000; Albrecht and Sack, 2000). In a classic study, Herzberg et al. (1993) investigated the influence of 16 work values on the job satisfaction of a large group of accountants and engineers. They found that accountants cited work values such as status and advancement among the most important work values, when they came to evaluate and choose a job.

This study adopts the above classificatory approach of four categories of work values – extrinsic, intrinsic, prestige and social – for the conceptualization and operationalization of beliefs concerning the attributes and outcomes associated with the AP and of their evaluative aspect.

The next section presents the integration of the above theories for the conceptualization, operationalization and measurement of subjective norm, attitude, perceived control and intention to pursue a career in the AP.

4.3.3 New integrated theoretical framework for accounting career choice

Career choices and related phenomena (major, occupation and specific job) have been demonstrated, both theoretically and empirically, to be cognitive in nature (Cohen and Hanno, 1973; Lent et al., 1994; Felton et al., 1995; Sauermann, 2004). This study utilizes a general cognitive decision-making theory, the theory of planned behaviour (Ajzen, 1988; 1991) as a theoretical framework to define the constructs of business students' behaviour towards pursuing accountancy as a career. Several authors have argued that decision-making theories concentrate on one aspect of the career development process and explain this process well (Strader and Katz, 1990; Cohen and Hanno, 1993; Felton et al., 1995). Subjective norm, attitude, perceived behavioural control and intention to pursue a career in the AP are the main general constructs of the new integrated theoretical model of an ACC.

Figure 4.3 below presents the general constructs of an ACC:

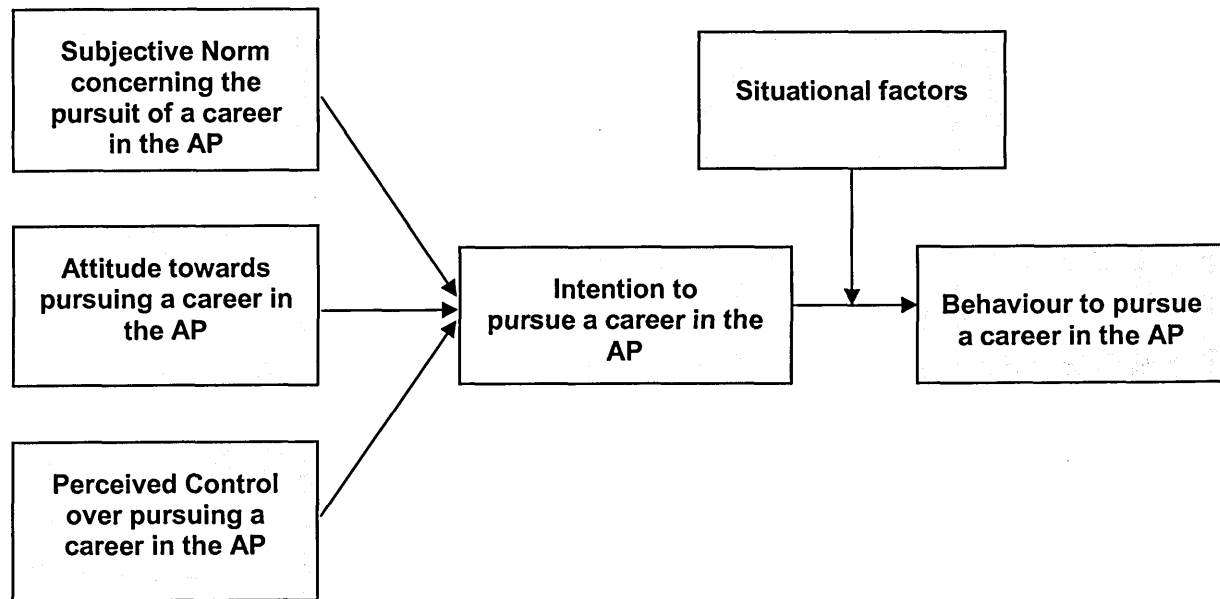


Figure 4.3: Conceptualization of an ACC based on the Theory of Planned Behaviour

4.3.3.1 Subjective norm concerning the pursuit of a career in the AP

Subjective norm is the first main construct that affect students' intention to pursue a career in the AP. It is perceived as the social pressure to pursue / not pursue a career in the AP. According to Azjen (1991), a global measure of subjective norm is obtained by asking students to rate the extent to which significant others would approve or disapprove of pursuing a career in the AP. In the present study, as first step management students' important referents for the choice of the AP will be elicited (Section 5.4.1.4

presents the operationalization of these sub-constructs). Then the strength of each normative belief concerning the pursuit of an accounting career and the motivation to comply with significant referents will be measured. Finally, the strength of each normative belief concerning the pursuit of a career in the AP will be multiplied by the students' motivation to comply with the referent in question.

The following equation describes the subjective norms concerning the pursuit of a career in the AP.

$$\text{Subjective norm} = \sum (\text{normative beliefs of important referents concerning the pursuit of a career in the AP}) \times (\text{motivation to comply with important referents})$$

The diagram in Figure 4.4 presents the conceptualization of subjective norm concerning the pursuit of a career in the AP.

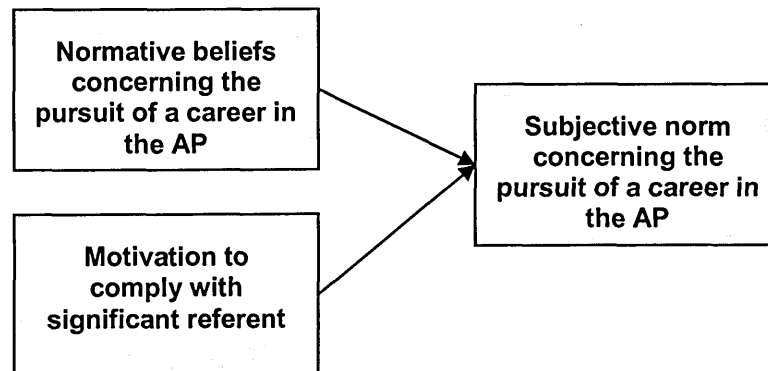


Figure 4.4: Conceptualization of subjective norm concerning the pursuit of a career in the AP

4.3.3.2 Attitude towards pursuing a career in the AP

In the present study, attitude towards pursuing the AP have been identified as the most critical construct of business students' intention to pursue a career in the AP for two reasons:

- Ajzen and Fishbein (1980) and Ajzen (2001) have stated that attitude towards behaviour in general is the primary factor of this process, which predicts vocational intention and behaviour (Ajzen and Fishbein 1980; Ajzen, 2001). In addition, accounting researchers have reported that attitudes towards the AP made significant contributions to the prediction of the intention to take an accounting major and follow a career in the AP (Nelson, 1992; Cohen and

Hanno, 1993; Felton et al., 1995; Marriott and Marriott, 2003; Tan and Laswad, 2006).

- Furthermore, accounting scholars have supported the view that accounting education can affect and change attitudes towards the accounting profession (behavioural beliefs) more than subjective norms (normative beliefs) and perceived control (self-efficacy beliefs) (Stice and Swain, 1997; Albrecht and Sack, 2000).

The expectancy value-model (Fishbein, 1963) serves as conceptual framework for vocational attitudes towards pursuing a career in the AP in this study. Implementing the expectancy-value model, a management student's attitude towards choosing a career in accountancy is a function of her/his cognitive beliefs concerning the attributes and outcomes associated with an accounting career and the evaluative aspects of those beliefs.

The present research has used the theory of work values to measure specific vocational beliefs concerning the attributes and outcomes associated with the AP (cognitive behavioural beliefs) and their evaluative components (affective behavioural beliefs). Specifically, this study uses the theory of work values (Super, 1970; Ros et al., 1999) to conceptualize and operationalize both what business students believe concerning the attributes and outcomes associated with the AP (cognitive specific beliefs concerning the behaviour) and what business students want out of work in general (implicit evaluative responses associated with those beliefs). This is the first attempt at developing a model of specific vocational choice that uses the theory of work values in the measurement of attitudes towards pursuing a career in a specific profession.

Work values refer only to goals in the work settings; they are more specific than basic individual values. But the work values usually studied are still quite broad; they refer to what a person wants out of work in general, rather than to the narrowly defined outcomes of particular job (Ros et al., 1999). The preferred job characteristics (work values) are said to be "general" because they are not exclusively related to a particular vocational job. In line with arguments noted above, it seems that individuals believe that each profession has all of these characteristics (e.g., financial rewards, status, intellectual job, etc.) at a certain amount (specific vocational behavioural beliefs). The present study conceptualizes and operationalizes vocational beliefs and attitudes about a specific profession based on the structure of its work values. Bandura (1986) argued that beliefs must be context-specific and relevant to the behaviour under investigation to be

useful to researchers and appropriate for empirical study. Conceptualizing a belief system involves the understanding that this system is composed of beliefs connected to one another and to other cognitive structures. In the present study, the specific vocational beliefs concerning the attributes and outcomes associated with the AP is a system of specific vocational beliefs whose conceptualization and operationalization are based on a taxonomy of work values. Further, this specific vocational belief system is connected with the system of subjective evaluation of attributes and outcomes (work values), attitudes and intentions to pursue a career in the AP.

Based on the above theoretical assumptions, the conceptualization of “attitude towards pursuing a career in the accounting profession” includes all the cognitive beliefs concerning the various characteristics and rewards associated with the accounting occupation and the subjective evaluation of these beliefs (Tournia-Germanou, 2004). The following equation describes the vocational attitude towards the AP:

$$\text{Attitude towards pursuing a career in the AP} = \sum (\text{beliefs concerning the attributes and outcomes associated with the AP}) \times (\text{work values})$$

The above equation presents the relationship between attitude towards pursuing a career in the AP, beliefs concerning the attributes and outcomes associated with the AP and work values. This is in line with the general agreement in the literature that work values do not influence people’s activity directly but rather indirectly, through attitudes and intentions (Roe and Ester, 1999). All the definitions in the literature treat work values as latent constructs that refer to the way in which people evaluate activities or outcomes of work. Generally speaking, the notion of work values implies to a relationship between an evaluating subject (individual) and an evaluated object (a specific profession), whereby this relationship is supposed to be durable and to have implications for the subject’s subsequent activity. The mediated important elements that connect work values and specific vocational attitudes are the vocational cognitive behavioural beliefs concerning attributes and outcomes associated with a specific profession. Therefore, vocational cognitive behavioural beliefs concerning attributes and outcomes associated with the AP serve as the fundamental primary determinants of the attitude concerning the pursuit of a career in the AP.

The diagram in Figure 4.5 presents the conceptualization of vocational attitude towards pursuing a career in the AP:

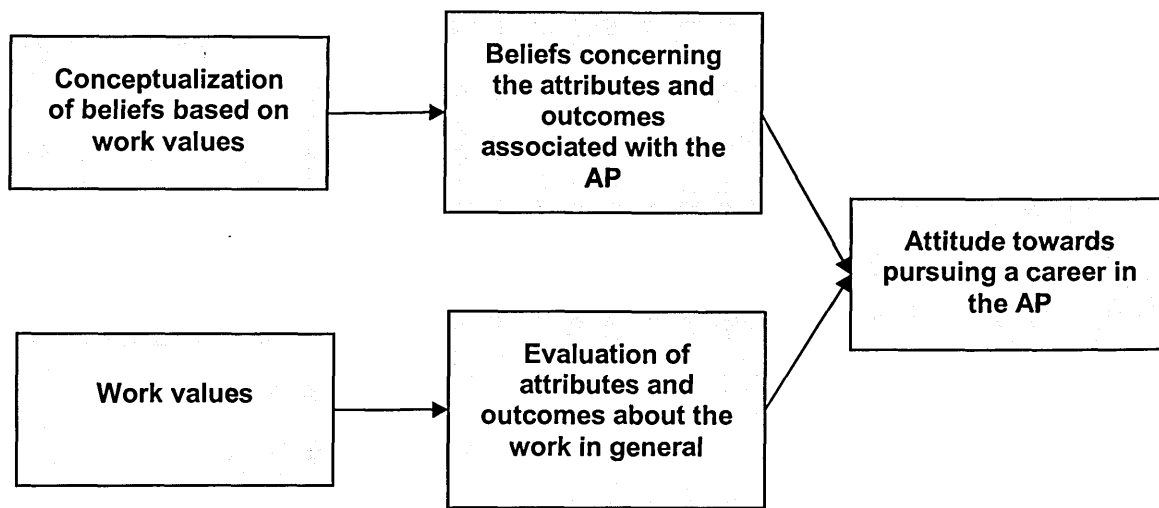


Figure 4.5: Conceptualization of specific vocational attitude

Albrecht and Sack (2000) have stressed the importance of specific job characteristics in business decision making, problem solving, carrying out an advisory role and working with others that accountants and students take into consideration when they choose a profession. In addition, several accounting authors have emphasized social responsibility as an important characteristic of an accounting job (Tinker and Koutsoumadi, 1997; Sivakumar, 2003; Zeff, 2003; Oliverio, 2004; Wyatt, 2004). Still, there is no research available into these specific beliefs held about the AP, and if and how they affect an ACC. Therefore, there is a need for a broad conceptualization and operationalization of specific beliefs concerning the AP and work in general in the process of making an ACC. The present study identifies and uses a broad range of beliefs concerning attributes and outcomes associated with the AP.

Further, this study uses the distinction made by Ros et al. (1999) for different types of work value (extrinsic, intrinsic, prestige and social work values) to operationalize individual beliefs concerning attributes and outcomes associated with the AP (see Section 4.3.2 above).

Table 4.1 presents the operationalization of beliefs concerning the extrinsic, prestige, intrinsic and social attributes and outcomes associated with the AP and the operationalization of individual work values (Pryor, 1983; Nevill and Super, 1986; Elizur et al., 1991; Ros et al., 1999).

Table 4.1: Description of different types of beliefs concerning the attributes and outcomes associated with the AP and work values

Individual Beliefs and Work Values	Description: Having a concern for...	Type of Beliefs and Work Values
Salary	Obtaining large salary from one's work.	Extrinsic
Other economic benefits	Obtaining other large financial rewards from one's work.	Extrinsic
Security	Being able to maintain one's job.	Extrinsic
Work conditions	The kind of physical environment in which one works.	Extrinsic
Interesting	Doing something interesting.	Intrinsic
Skills and Abilities	Using one's skills and abilities.	Intrinsic
Personal growth	Learning new things.	Intrinsic
Meaningful job / feedback	Seeing the results of what one does.	Intrinsic
Achievement	Accomplishing something important.	Intrinsic
Creativity	Developing something original through one's work.	Intrinsic
Independence / Autonomy	Being free from imposed constraints in the work environment.	Intrinsic
Intellectual job	Using one's head.	Intrinsic
Esteem	A concern for doing something worthwhile.	Intrinsic
Advancement / Promotion	Promoting oneself.	Prestige
Management / Decision making	Organizing the work of others and making decisions.	Prestige
Social status	Recognition and status in the eyes of others.	Prestige
Social responsibility	Assisting others.	Social
Work with others	Friendship and understanding from those with whom one works.	Social

Source: Adopted from Pryor (1983), Nevill and Super (1986), Elizur et al. (1991), Ros et al. (1999)

Based on Table 4.1 above, the following equation presents the mathematical model for the measurement of attitude towards pursuing a career in the AP:

$$\text{Vocational Attitude towards pursuing career in the AP} = \sum (\text{extrinsic beliefs}) \times (\text{extrinsic work values}) + (\text{intrinsic beliefs}) \times (\text{intrinsic work values}) + (\text{prestige beliefs}) \times (\text{prestige work values}) + (\text{social beliefs}) \times (\text{social work values})$$

On the basis of the above theoretical framework of vocational attitude, two key issues emerged that were strongly involved in the formation of attitude concerning the

pursuit of a career in the AP: one, the formation of beliefs concerning the attributes and outcomes associated with the AP (overall perception of profession); and two, the formation of individual work values for the preferred job characteristics of an ideal job. It is the interaction between work values and specific accounting vocational beliefs which created the attitude held concerning the pursuit of a career in accounting.

Summarizing the attitude concerning the pursuit of a career in the AP, to the current author's best knowledge, none of the vocational researchers mentioned above has used work values to measure specific vocational attitudes in an integrated theoretical framework of career decision making. In the vocational literature there is not any measure of specific vocational attitude concerning the pursuit of a career in a specific profession that has a strong theoretical foundation for the operationalization of the components of attitude. Previous accounting research has not used all the types (extrinsic, intrinsic, prestige and social) and all the individual beliefs and work values relating to an ACC in the measurement of attitude. None of the accounting researchers has investigated the effect of the different components of attitude on students' intention to pursue a career in the AP.

4.3.3.3 Perceived behaviour control over pursuing a career in the AP

Perceived behaviour control over pursuing a career in the AP is the third main construct that affects students' intention to pursue a career in the profession. The present study uses students' self-efficacy beliefs concerning their becoming accountants and students' evaluation of the importance of possessing relevant vocational self-efficacies to compute the perceived control construct over pursuing a career in the AP.

Firstly, the self-efficacy beliefs that can facilitate or impede a decision to enter the AP will be elicited (Section 5.4.1.4 presents factors that might interfere with the pursuit of a career in the AP). Secondly, the strength of each self-efficacy belief concerning the pursuit of a career in the AP and the importance of possessing relevant vocational self-efficacies in order to pursue any occupation will be measured. Finally the strength of each self-efficacy belief will be multiplied by the students' evaluation of the importance of possessing relevant self-efficacies.

The following equation describes the perceived control over pursuing a career in the AP:

$$\text{Perceived control} = \sum (\text{self-efficacy beliefs concerning the pursuit of a career in the AP}) \times (\text{importance of possessing relevant self-efficacies})$$

The diagram in Figure 4.6 presents the conceptualization of perceived control towards pursuing a career in the AP:

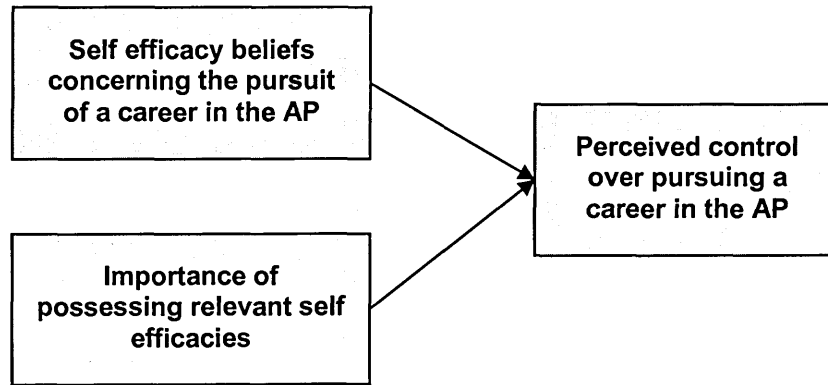
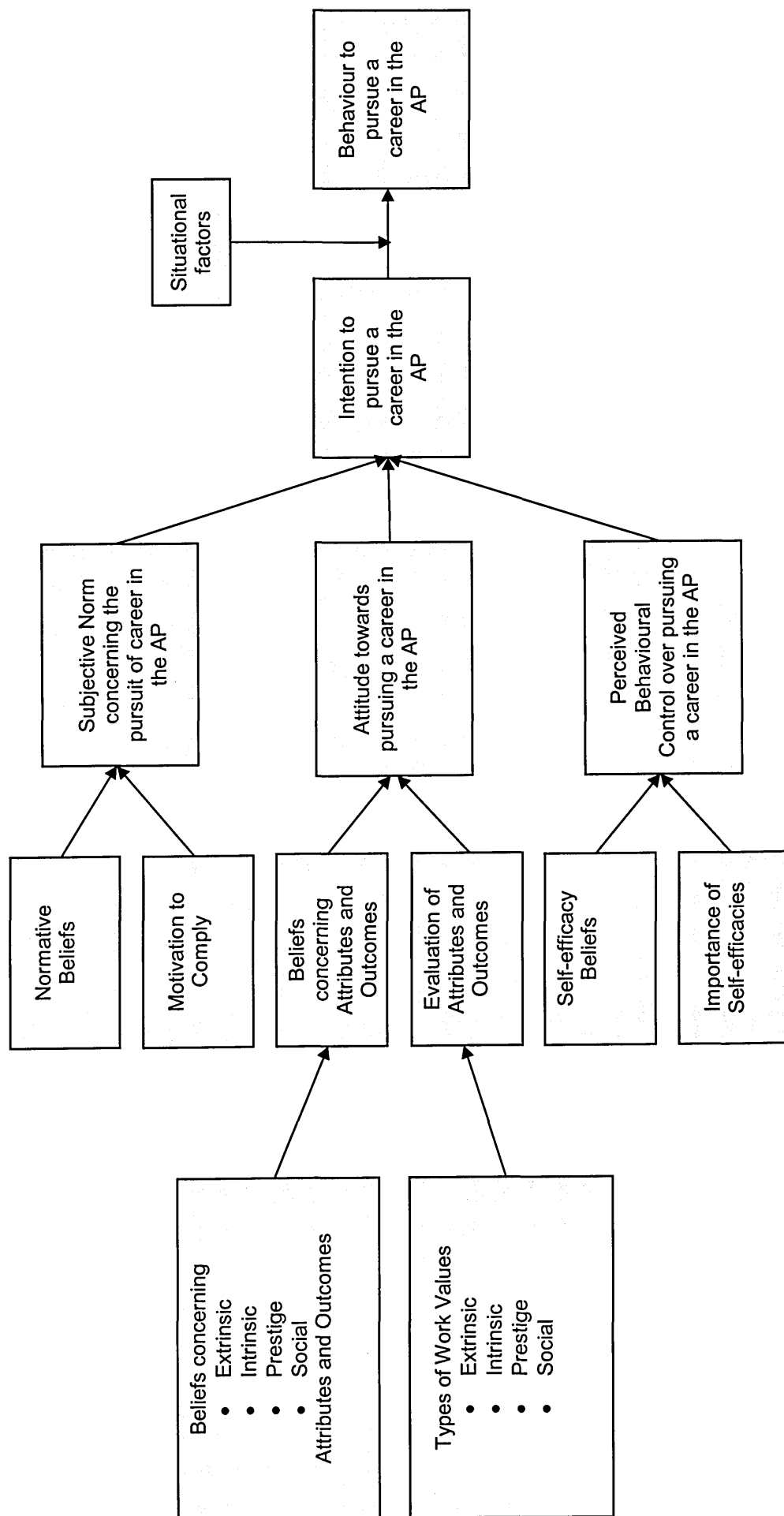


Figure 4.6: Conceptualization of perceived control over pursuing a career in the AP

This study has presented a new theoretical framework for the investigation of an ACC during a specific period of time. This integrated model is based on research on behavioural decision making (Fishbein, 1963; Ajzen and Fishbein, 1980; Ajzen, 1988; 1991) and work values theory (Super, 1970, 1981).

Figure 4.7 below presents all the main constructs of an ACC, in an integrated theoretical framework.

Figure 4.7: Integrated theoretical framework used in study



4.4 Changes in students' attitude towards pursuing a career in the AP

Throughout this chapter it has been made clear that the attitude held towards pursuing a career in the AP is the most critical construct affecting the ACC (Ajzen and Fishbein 1980; Ajzen, 2001). It is determined by students' specific beliefs concerning the attributes and outcomes associated with the AP and by the evaluations of those attributes and outcomes (work values). The vocational behavioural beliefs occupy a central role in the integrated theoretical framework used in this study. A student's behavioural beliefs concerning the pursuit of an accounting career were described as the perceived probabilistic relation between an accounting career and the attributes and outcomes associated with this career. This conceptualization makes it clear that an influence attempt must always be directed at one or more of the business student's behavioural beliefs concerning the pursuit of an accounting career. Fishbein and Ajzen (1975) have argued that studies attempting to produce change in a given variable such as attitude can only lead to inconsistent findings if the beliefs underlying that variable are not well understood. Therefore, attitude towards pursuing a career in the AP can be changed only by changing the existing behavioural beliefs concerning attributes and outcomes associated with the AP, or by changing students' evaluation of the attributes and outcomes (work values).

Changes in attitudes involve exposure to new experiences and information concerning attributes and outcomes associated with the AP. An influence attempt is designed to change attitudes by providing informational items that correspond to and may affect certain beliefs for extrinsic, intrinsic, prestige and social outcomes. Changes in beliefs concerning the attributes and outcomes associated with the AP resulting from such exposure to new information provide the foundation on which rests the ultimate effectiveness of any influence attempt. Several researchers (see Fishbein, 1980; Super, 1990; Lent et al., 1994) have stressed the role of new experiences and information on decision making and vocational career choice. Fishbein (1980) supported the view that individuals are essentially rational, in that they "make systematic use of information available to them" and are not "controlled by unconscious motives or overpowering desires", and neither is their behaviour "capricious or thoughtless". Further, he has argued for the informational basis for the formation of and changes in attitudes (Fishbein, 1963). Vocational authors have reported the effects of new learning experiences on career choice and have stressed the importance of new vocational

information on career decision making (Lent et al., 1994). Super's (1990) theory regards learning experiences as pivotal to the development of career-related personality variables, such as needs, work values and interests. Lent et al. (1994) have examined cognitive mediators through which learning experiences guide career behaviour. Mitchell and Krumboltz (1996) have listed instrumental and associative learning experiences as an important category of factors that influence the career decision-making path of an individual.

Ajzen and Fishbein (1980) have argued that a person may form or change a behavioural belief directly by observing an object-attribute relation or by accepting information to the effect that the object has the attribute, or that she/he may form a belief indirectly by means of some inference process. Inferential beliefs are formed on the basis of other beliefs that the individual holds; e.g., students hold beliefs about accounting courses – inferential beliefs – that may affect their behavioural beliefs concerning the attributes associated with the AP. Change in an inferential belief can therefore be brought about by changing some or all of the relevant beliefs that provide the basis for the inference process (Ajzen and Fishbein, 1980). Hence, exposure to new experiences and information about accounting as discipline and as profession will lead to changes in beliefs, perceptions, attitudes and intentions concerning the pursuit of a career in the AP. Ajzen and Fishbein (1980) have supported the view that there are two basic strategies that can directly influence beliefs and change attitudes and intentions, namely active participation and persuasive communication.

As this study seeks to investigate the effects of a traditional FAC (active participation) and an innovative FAC (persuasive communication) on students' beliefs, work values, attitudes and intention towards following an accounting career, the following subsections present the strategies of active participation and persuasive communication.

4.4.1 Active participation – Traditional first accounting course

Active participation is an effective strategy for changing behavioural beliefs, attitude and intention (Fishbein and Ajzen, 1975). In active participation, the individual may gain new experiences and information by observing objects, people and events in a given situation (traditional FAC). In most active participation situations, the individual perceives that certain people and objects are present in the environment and may possess certain attributes. She/he may also observe some of the behaviours performed by individuals in the situation, including her/his own behaviour. Furthermore, she/he

may perceive contingencies between these behaviours and certain outcomes (Fishbein and Ajzen, 1975). Since a person rarely questions her/his own observations, the participation experience is likely to produce changes in many of her/his beliefs and work values.

Business students during the traditional FAC are engaged in a process of active participation. Although they do not observe the AP itself, they create inferential beliefs about the characteristics, attributes and outcomes associated with the AP through the new accounting learning experiences (traditional FAC).

Accounting educators have not understood the importance of the FAC and its effects on students' behavioural beliefs concerning the characteristics and outcomes associated with the AP. These behavioural beliefs will shape students' attitudes, intentions and their final decisions regarding to pursue a career in the AP. Accounting educators have been found not to ensure that their students will perceive the desired attribute-accounting profession association (Albrecht and Sack, 2000). Traditionally, the FAC is presented from a preparer's perspective as if it were the beginning of a sequence of courses for accounting majors. The accounting course content is difficult, technical and precise. The accounting context and accounting exercises are traditionally designed and well-structured, and students have all the information needed to arrive at the one and only correct answer (Subotnik, 1987). Under the traditional AE model, the lecture method is recognized as an effective vehicle for presenting the fairly large technical body of accounting rules, standards and pronouncements (Parker, 1993). However, emphasis on the mechanics of accounting does not engender positive beliefs about the attributes associated with the AP and therefore, positive attitude and intention to pursue a career in the AP. Several accounting researchers have presented evidence that business students frequently form negative beliefs about and attitudes towards the possibility of following a career in the AP after completing the FAC (Baldwin and Ingram, 1991; Nelson, 1992; Marriott and Marriott, 2003). As the FAC typically is bookkeeping-oriented, textbook-dependent and rule-driven, business students perceive the AP as technical, with explicitly ordered activities, and an aversion to unstructured, unsystematic activities. If it can be assumed that the information age calls for a different kind of accountant than past ages, then it follows that the traditional FAC causes the wrong type of business student to select to enter the AP (Baldwin and Ingram, 1991).

4.4.2 Persuasive communication – Innovative first accounting course

In contrast to active participation, where a person may gain information by observing objects, people and events in a given situation, in a situation of persuasive communication (innovative FAC) a person is provided with informational items (communicative message) by an outside source. Counselling psychology research on career intervention outcomes has shown quite clearly that career interventions are effective (Oliver and Spokane, 1988; Whitson et al., 1998; Brown and Krane, 2000). Furthermore, Marko and Savickas (1998) have supported the importance of the forward-looking time perspective of career intervention for the future career development of adolescents and specifically concluded that it improves planning vocational attitudes.

Traditional research on communication and persuasion has attempted to investigate factors influencing the effectiveness of persuasive communication. According to the Yale Communication Research Program (Hovland et al., 1953; Hovland and Janis, 1959; Hovland and Rosenberg, 1960), the effectiveness of persuasive communication depends on a series of factors, namely source, message, channel and audience characteristics. Source of a communication refers to various characteristics of the communicator, such as trustworthiness, expertise, status, likeability, credibility, etc. Message and channel characteristics refers to types of message as written or oral, one-sided or two-sided, emotional or logical, explicit or implicit, etc. Audience characteristics refer to variables as intelligence, initial opinions, personality traits, general persuadability and cognitive complexity. Therefore, a specific message by a given source may result in different source probability results for different subjects. Furthermore, the basic assumptions underlying the effect of a given message depend on the extent to which it is attended to, comprehended and accepted.

Fishbein and Ajzen (1975) have proposed a different model of persuasive communication that is based on the mediating role of behavioural beliefs in the influence process. A message can be described as consisting primarily of a series of belief statements, each linking the object to an attribute, such as another object, a concept, an event or a goal (Fishbein and Ajzen, 1975). They argued that in order to be successful, an influence attempt must at the very least produce changes in specific beliefs (behavioural beliefs) assumed to directly or indirectly influence the variable (attitude) that is to be changed. A persuasive communication comprises for the most part a set of belief statements (source beliefs). Fishbein (1982) stated that “To be successful, an intervention attempt will have to consider a wide range of beliefs”.

Therefore, the purpose of any persuasive communication is to produce change in some constructs, such as beliefs, attitude, and intention. At the most general level, the assumption is that acceptance of the source belief statements contained in the message will lead to a change in the constructs of behaviour. It may thus be argued that a message is effective to the extent that the subjects accept the source beliefs it contains. The most fundamental principle underlying the approach of Fishbein and Ajzen (1975) is the assumption that person is basically a rational information processor whose beliefs, attitudes, intentions and behaviours are influenced by the information available to her/him. This principle is consistent with the vocational researchers' argument that people make career decisions based on the available information to them (Super, 1990; Mitchell and Krumboltz, 1996). This principle implies that any analysis of a persuasive attempt must begin with the items of information made available to subjects during instances of persuasive communication. The subject's processing of this information determines the effect of the communication on the constructs of behaviour.

Several researchers (see Fishbein et al., 1980; McCarty, 1981; Strader and Katz, 1990) have proved empirically the effect of a persuasive communication message on attitude and intention by manipulating the behavioural beliefs that are related to the specific attitude and intention. Foskett and Hemsley-Brown (2000) have argued that the promotion of specific jobs and career fields has to include real stories about real people and their lifestyle – how they spend their time at work and away from work, how they have progressed to their present position, what their concerns, joys, successes and fears are. Such a holistic lifestyle view of careers is essential because students are actually interested in the sum total of work, personal life, income and relationships that constitutes the concept of the lifestyle.

The present study adopts the Fishbein and Ajzen (1975) model of persuasive communication to investigate its results on students' beliefs, attitude and intention after an informational message about attributes and outcomes associated with the AP. In this study management students, in parallel with the teaching of a traditional FAC, will be informed by an outside source about the attributes and outcomes associated with the AP. Information provided by professional accountants has been proposed as very important and influential for bringing about changes in beliefs, perceptions, attitudes and intentions concerning the pursuit of an accounting career (Mitrejean and Zarzeski, 2001; Fedoryshyn and Tyson, 2003).

The purpose of this intervention is to change the behavioural beliefs of students concerning the attributes and outcomes associated with the AP and thereby to influence

their attitude and intention to pursue a career in the AP. Behavioural beliefs concerning the attributes and outcomes associated with the AP represent the information students have about the consequences of a decision to pursue a career in the AP. Behavioural interventions provide information that may change some of these existing beliefs, or that may lead to the formation of new beliefs (Ajzen, 1971).

It is important that the information provided be as accurate as possible. The ethical reasons for this requirement are obvious, but there are other reasons as well. Accounting professionals and academics may be able to change attitude and intentions towards the AP by providing powerful but inaccurate information relevant to AP outcomes. In the short term, this may be quite effective in that researchers may see beliefs, attitude and intention change as a result of the persuasive message. In the long run, when graduates enter the AP, they will realize that the promised consequences do not materialize, and they will feel the discrepancy between expectations and reality (Dean et al., 1988). This discrepancy has been termed occupational reality shock (ORS; Dean et al., 1988; Wilson et al., 1997). As a result attitude and intention will often revert to what they were prior to the instance/s of persuasive communication. Only when the new beliefs accurately reflect reality can the researchers expect that the effect of an intervention will persist over time. In this study a persuasive communication message consists of a number of accurate informational statements, provided by professional accountants and academics, each corresponding to one or more beliefs concerning the attributes and outcomes associated with the AP. In a persuasive communication it is important to ensure that the students accept the information which attempts to link the AP with specific attributes and outcomes. Therefore, for a successful intervention it is important to attain a deep understanding and a broad conceptualization of business students' behavioural beliefs, work values and attitude concerning the AP (see Section 4.3.3.2).

4.5 Statement of hypotheses

A hypothesis is a statement that specifies how two or more measurable variables are related (Churchill, 1999, p.101). Nachmias and Nachmias (2000) identified four common yet important characteristics for the research hypotheses, all of which are related to their role in the research process:

1. Hypotheses must be clear; the researcher must define all of the variables conceptually and operationally.

2. Hypotheses are specific; the researcher points out the expected relations between the variables in terms of direction (positive or negative) and the conditions under which the relations will hold.
3. Hypotheses are testable with available methods; the evaluation of a hypothesis depends on the existence of methods for testing it.
4. Scientific hypotheses are value-free; because research in the social sciences takes place in a social milieu, the researcher must be aware of personal biases and make them as explicit as possible.

Based on the above proposed theoretical framework of an ACC, the following hypotheses will be tested in order to answer the research questions and to meet the research objectives of the study:

Hypothesis 1: Students' intention to pursue a career in the AP will be strongly predicted by their subjective norm concerning the pursuit of a career in the AP.

Hypothesis 2: Students' intention to pursue a career in the AP will be strongly predicted by their attitude towards pursuing an accounting career.

- **Hypothesis 2a:** Students' intention to pursue a career in the AP will be strongly predicted by the extrinsic dimension of their attitude towards pursuing an accounting career.
- **Hypothesis 2b:** Students' intention to pursue a career in the AP will be strongly predicted by the intrinsic dimension of their attitude towards pursuing an accounting career.
- **Hypothesis 2c:** Students' intention to pursue a career in the AP will be strongly predicted by the prestige dimension of their attitude towards pursuing an accounting career.
- **Hypothesis 2d:** Students' intention to pursue a career in the AP will be strongly predicted by the social dimension of their attitude towards pursuing an accounting career.

Hypothesis 3: Students' intention to pursue a career in the AP will be strongly predicted by their perceived control over pursuing a career in the AP.

Hypothesis 4: There are significant differences in the subjective norm concerning the pursuit of a career in the AP among those students who intend and those who do not intend to pursue a career in the AP, or are as yet undecided.

Hypothesis 5: There are significant differences in the attitude towards pursuing an accounting career among those students who intend and those who do not intend to pursue a career in the AP, or are as yet undecided.

- **Hypothesis 5a:** There are significant differences in the extrinsic dimension of attitude towards pursuing an accounting career among those students who intend and those who do not intend to pursue a career in the AP, or are as yet undecided.
- **Hypothesis 5b:** There are significant differences in the intrinsic dimension of attitude towards pursuing an accounting career among those students who intend and those who do not intend to pursue a career in the AP, or are as yet undecided.
- **Hypothesis 5c:** There are significant differences in the prestige dimension of attitude towards pursuing an accounting career among those students who intend and those who do not intend to pursue a career in the AP, or are as yet undecided.
- **Hypothesis 5d:** There are significant differences in the social dimension of attitude towards pursuing an accounting career among those students who intend and those who do not intend to pursue a career in the AP, or are as yet undecided.

Hypothesis 6: There are significant differences in the perceived control over pursuing a career in the AP among those students who intend and those who do not intend to pursue a career in the AP, or are as yet undecided.

Hypothesis 7: Students' ACC constructs – intention, subjective norm, attitude and perceived control – will deteriorate between the beginning and the end of a traditional FAC.

- **Hypothesis 7a:** Students' intention will deteriorate between the beginning and the end of a traditional FAC.
- **Hypothesis 7b:** Students' subjective norm will deteriorate between the beginning and the end of a traditional FAC.
- **Hypothesis 7c:** Students' attitude will deteriorate between the beginning and the end of a traditional FAC.
- **Hypothesis 7d:** Students' perceived control will deteriorate between the beginning and the end of a traditional FAC.

Hypothesis 8: Students' ACC constructs – intention, subjective norm, attitude and perceived control – will improve between the beginning and the end of an innovative FAC.

- **Hypothesis 8a:** Students' intention will improve between the beginning and the end of an innovative FAC.
- **Hypothesis 8b:** Students' subjective norm will improve between the beginning and the end of an innovative FAC.
- **Hypothesis 8c:** Students' attitude will improve between the beginning and the end of an innovative FAC.
- **Hypothesis 8d:** Students' perceived control will improve between the beginning and the end of an innovative FAC.

Hypothesis 9: There will be a statistically significant difference in intention score between students in a traditional and those in an innovative FAC, at the end of the first academic semester.

If hypothesis nine does reveal statistically significant differences, the following hypotheses will be tested in order to identify differences concerning the other constructs of ACC between students in a traditional and those in an innovative FAC.

Hypothesis 10: Students in traditional and innovative FAC will differ in terms of their subjective norm, extrinsic, intrinsic, prestige and social dimension of attitude and perceived control at the end of the first academic semester.

Hypothesis 11: Students in the innovative course will have more favourable intention, subjective norm, attitude and perceived control than those students in the traditional course, measured across the two time periods (beginning and end of the semester).

4.6 Chapter summary

This chapter has presented a new integrated theoretical framework for the investigation of the ACC of management students at the beginning and at the end of the FAC. The accounting career decision model outlined above is based on the planned behaviour theory, on the expectancy value model as well as on the theory of work values. In addition, the present research has proposed a broad theoretical approach to measure the concept of attitude towards the AP. The new operationalization of attitudes is based on behavioural beliefs concerning the attributes and outcomes associated with the AP and on work values. The attitude towards pursuing an accounting career was not well

conceptualized and operationalized in previous studies. A novel multi-theory approach that integrates psychological, vocational and accounting theories produced an objective set of interconnected issues. Integrating vocational attitude, specific behavioural beliefs, work values and constructs from the accounting literature on recruitment was significant in that spatial perspectives were added into the attitude elicitation process to create opportunities for a wider range of issues to become explicit, thereby improving content validity.

The integrated theoretical model of the study was extended to account for the role of learning experiences and information about the AP on students' beliefs, subjective norm, attitude, perceived control and intention to pursue an accounting career during a specific period of time. Furthermore, the hypotheses of the study have been presented.

The next chapter presents the research methodology and the specific research strategies adopted for the study.

Chapter 5.

RESEARCH METHODOLOGY

5.1 Introduction

Previous chapters have explored the literature in areas relevant to making an accounting career choice (ACC) and to accounting education (AE), in particular Chapter 4 examined theories relevant to decision making and career choice. This chapter begins with the rationale for the choice of research paradigm and methodology, followed by introducing the overall research process, divided into three main stages. In stage one, the literature review and an “experience survey” (also called “key informant survey”; see Section 5.4.1) were drawn on to develop a theoretical framework for the study and construct the research instrument. In stage two, a longitudinal study was implemented to test empirically the model for an accounting career choice (ACC). Finally, in stage three, a quasi-experimental research design examined the effect of a first accounting course (FAC) on the constructs of the ACC model. The description of these research stages is followed by a full description of the setting of the study, the population selected for it and the data collection process. This is followed by an introduction of the quantitative data analyses used for the treatment of data in this study: reliability, factor analysis, multiple linear regression analysis, multivariate analysis of variance, univariate analysis of variance and T-tests. The last section of the chapter deals with the theory behind instrument reliability and validity, followed by a chapter summary.

5.2 Choice of research paradigm and research methodology

5.2.1 Research paradigm

Social scientists use a variety of paradigms or theoretical perspectives to organize how they understand an inquiry into social life, their general approach to research and how research should be conducted (Hussey and Hussey, 1997).

Paradigms play a fundamental role in science, just as they do in daily life (Babbie, 2004). A paradigm is a theoretical model within which the research is being conducted, and organizes the researcher’s view of reality (though they may not be aware of it; Birley and Moreland, 1998). Kuhn (1970) introduced the idea of a “paradigm” serving

as a regulatory framework of metaphysical assumptions shared by members of a given community (Kuhn, 1970), which specifies the character of the world and its constituent objects and processes and which acts as a “disciplinary matrix” by drawing the boundaries for what the community’s work is to look like. Paradigms are universally recognized scientific achievements that for a time provide model problems and solutions to a community of practitioners (Kuhn, 1970). Each paradigm has its own distinctive language which offers a unique means of classifying and construing the objects encountered during scientists’ engagements with the world.

In the social sciences scientists have developed several paradigms for understanding social behaviour and these offer a variety of views, with each paradigm offering insights other paradigms lack, and ignore aspects of social life that others reveal. The social scientific reality depends upon which paradigm is used; its result is viewing the world in a particular way through the prism of a particular paradigm (Burrell and Morgan, 1979). Paradigms offer a framework comprising an accepted set of theories, methods and ways of defining data (Hussey and Hussey, 1997). Paradigms are not true or false; as a way of looking at the world, they are only more or less useful (Babbie, 2004). Crotty (1998) has presented a representative sample of different philosophical paradigms: positivism, interpretivism (symbolic interactionism, phenomenology and hermeneutics), critical inquiry, feminism and postmodernism. However, scholars of methodology have argued that there are only two dominant research paradigms or philosophies that are used in business and management research (Easterby-Smith et al., 1991; Hussey and Hussey, 1997). These two paradigms can be labelled positivism and phenomenology / interpretivism. Each of these research philosophies makes its own assumptions about the nature of the social sciences and of society, which have different methodological implications (Burrell and Morgan, 1979). These assumptions are related to ontology, epistemology, human nature and methodology (Burrell and Morgan, 1979).

5.2.1.1 Positivism

Positivism is the dominant epistemological orientation that underpins theory and research in the social sciences. The philosophical assumptions of positivism provide the basis for the discussion and critiques of the epistemological alternatives to positivism (conventionalism, postmodernism, critical theory and pragmatism-realism). But to understand the strands and positions of the last phase of positivism established by Karl

Popper, we must turn back to its roots, which are rationalism, empiricism and logical positivism.

According to all supporters of rationalism, empiricism, logical positivism and positivism, the reality is “out there”, an external reality independent of human beings. We can approach and perhaps understand the absolute truth of things through a commitment to a neutral language of observation as it enables us to hold with the correspondence theory of truth, thus believe in the truth of facts. We can understand, construct the truth, the world, the external reality only through a valid epistemic process.

Positivism is an epistemological position that advocates the application of the methods of the natural sciences to the study of social reality and beyond (Bryman, 2001). A positivist approach implies that researchers begin with a general causal relationship that has been logically derived from causal laws in a general theory of the phenomena under discussion. The researcher logically links abstract ideas in such laws to precise measurements of the social world. The researcher remains detached, neutral and objective, as he measures aspects of social life, examines evidence, and replicates the research of others. These processes lead to an empirical foundation for the laws that govern social life outlined in theory (Neuman, 1994).

The main criticisms made of the positivist paradigm (Gill and Johnson, 1997; Hussey and Hussey, 1997) are:

- It is impossible to treat people as being separate from their social contexts and they cannot be understood without examining the perceptions they have of their own activities.
- A highly structured research design imposes certain constraints on the result and may ignore more relevant and interesting findings.
- Researchers are not objective, but are part of what they observe. They bring their own interests and values to the research.
- Capturing complex phenomena in a single measure is at best misleading, e.g., is it possible to assign a numerical value to a person's intelligence?

5.2.1.2 Interpretivism

Interpretivism is taken to denote an alternative to the orthodoxy of positivism that has held sway for decades. It is predicated upon the view that a strategy is required that respects the differences between people and the objects of the natural sciences, and

therefore requires the social scientist to grasp the subjective meaning of social action (Bryman, 2001).

Interpretive philosophers attack positivism and attempt to explain human behaviour on the subjective basis of the researcher. As human behaviour and actions have an internal logic (Laing, 1967), social researchers have to understand this internal logic by taking a different approach, often called “*verstehen*”. They have denied the unity of the natural and the social sciences and called for a “relearning” the approaches that seek to explain natural phenomena. The interpretive paradigm is informed by a concern to understand the world as it is, to understand the fundamental nature of the social world at the level of subjective experience. It seeks explanations within the realm of individual consciousness and subjectivity, within the frame of reference of the participant as opposed to that of the observer of an action (Burrell and Morgan, 1979).

The term “interpretive research” reflects a methodological perspective. In a general sense, interpretive research attempts to describe, understand and interpret the meanings that human actors apply to the symbols and structures of the settings in which they find themselves (Baker and Bettner, 1997).

The acceptance of human subjectivity in explaining human beliefs, values and actions in an inductive approach, and the use of a different methodology by the natural sciences does not mean that interpretive philosophers reject the other positivist commitments. The interpretive approach is the foundation of social research techniques that are sensitive to context, that use various methods to get inside the ways in which others see the world, and that are more concerned with achieving an empathic understanding of feelings and world views than with testing laws of human behaviour (Neuman, 1994).

The main criticisms of the phenomenological paradigm (Chua, 1986) are:

- Theory validation raises the question of how one judges the validity of an interpretation if actors cannot be trusted entirely, and interpretations are incomplete and dependent on the researcher’s subjectivity.
- The use of the actors’ agreement as the standard for judging the adequacy of an explanation.
- The small samples investigated in depth or over time may limit the generalizability of the research findings.
- Data collection can take up a great deal of time and resources and the analysis and interpretation of data may be very difficult.

Table 5.1: Features of the two main paradigms

Positivist paradigm	Phenomenological paradigm
Tends to produce quantitative data	Tends to produce qualitative data
Uses large samples	Uses small samples
Concerned with hypothesis testing	Concerned with generating theories
Data is highly specific and precise	Data is rich and subjective
Location is artificial	Location is natural
Reliability is high	Reliability is low
Validity is low	Validity is high
Generalises from sample to population	Generalises from one setting to another

These two main paradigms define two different views of the social world, based upon different views of their ontological, epistemological, axiological and methodological assumptions, and they are mutually exclusive. Which set of philosophical assumptions is implicitly or explicitly adopted influences our subsequent choice of research methodology and research approach.

5.2.2 Philosophical assumptions

5.2.2.1 Ontology

The ontological assumption is related to the structure of reality, assuming whether the world is objective and external to the researcher, or socially constructed and only understood by examining the perceptions of the human actors (Hussey and Hussey, 1997). Ontology is concerned with the nature of reality (Hopper and Powell, 1985). A basic question is whether the reality is given out there in the world or is the product of one's mind; whether reality is of an objective nature or the product of individual cognition; whether the reality to be investigated is external to the individual or the product of individual consciousness (Creswell, 1994). Realists assume that reality is external to individual cognition and see the social world as a concrete structure, which is in many respects empirically indefinable and presumably measurable in some way (Gill and Johnson, 2002), whereas nominalists perceive reality as a projection of human imagination (Morgan and Smircich, 1980). The nominalists assume that the social world external to individual cognition is made up of nothing more than names, concepts and labels which are used to structure reality (Burrell and Morgan, 1979). The realists believe that the world exists in its own right, external and independent of the people's mind.

5.2.2.2 Epistemology

The epistemological assumption is concerned with the study of knowledge and what a researcher accepts as valid knowledge (Hussey and Hussey, 1997). Epistemology is concerned with assumptions about the nature and grounds of knowledge (Burrell and Morgan, 1979). An epistemological issue concerns the question of what is (or should be) regarded as acceptable knowledge in a discipline (Bryman, 2001). Epistemology is concerned with the study and analysis of knowledge or science by way of establishing criteria about what constitutes science and what does not.

Different epistemological considerations are identified in the social sciences literature, positivism and interpretivism (Bryman, 2001), positivism and anti-positivism (Burrell and Morgan, 1979), and objectivism, subjectivism and constructionism (Crotty, 1998). Objectivist epistemology is based on the notion that knowledge exists independently of any consciousness and that only phenomena which are observable and measurable can be validly regarded as knowledge (Hussey and Hussey, 1997). Subjectivist epistemology, on the other hand, is based on the notion that knowledge is imposed on the object by the subject (Crotty, 1998) and phenomenologist epistemology attempts to minimise the distance between the researcher and that which is being researched (Hussey and Hussey, 1997). Constructionist epistemology is based on the notion that knowledge is constructed (Crotty, 1998), and that it does not reflect any external “transcendent” realities but is contingent on convention, human perception and social experience. Social constructionists argue that the authority of knowledge ultimately derives from a “knowledge community” of people who agree about the truth: “Knowledge is intrinsically the common property of a group or else nothing at all” (Kuhn, 1970, p.210).

5.2.2.3 Human nature

Human nature – an axiological assumption – is concerned with the relationship between individuals and their environment (Burrell and Morgan, 1979), with the process of research and with the question whether it is value-free or implies the researcher’s values.

Two extreme dimensions are identified to explain how human beings interact and respond to their external environment: the determinist or value-free position and the voluntarist or value-laden position. The deterministic view regards human beings and their experiences and activities as the products of their environment, i.e., people are conditioned by external circumstances. The voluntaristic view, on the other hand,

regards human beings as autonomous, as creators and controllers of their environment and acting independently of external stimuli.

5.2.2.4 Methodology

The choice of theoretical perspective in business and management research is closely related to the methodology that the researcher adopts to conduct his/her research. The methodological assumption is concerned with the process of research.

Gaffikin (1986) argues that “the term methodology has been used in loose and undisciplined fashion”. He argues that the “methodological studies, in the sense philosophers (its original users) use it, is not a study of techniques and methods, but a study of the principles by which adherents of any discipline learn to accept or reject knowledge”. The methodology, in its general sense, refers to the total processes by which the science of knowledge can be carried out. In others words, methodology is involved with the processes of thinking and formulation of a research agenda, and examining methods that are to be used in the process of knowledge, as well as of theorising. Such processes may differ from theorist to theorist or from one school of thought to another or from one individual researcher to another (Lodh and Gaffikin, 1997).

The main focus in methodological philosophy is on the difference between an inductive and a deductive approach. McAuley (1985) posits that one of the key differences between inductive and deductive research is the focus of the researcher. The deductive logic of research demands the researcher making a claim to taking an objective position and distance from the research subject. In the inductive logic of research, the researcher is a part of the study itself.

Inductive (phenomenological) research is a study in which the observation of empirical reality is used to develop theory. The inductive approach is used when the aim of the research is to move from the specific to the general, and it helps the researcher moving from individual observations to statements of general patterns. Inductive research involves moving from a position of observing the empirical world to the construction of explanations and theories of what has been observed (Gill and Johnson, 1997).

Deductive (positivist) research begins by developing a conceptual and theoretical structure and goes to test them by empirical observation. Hypotheses regarding causal relationships are generated and then tested against empirical data. A deductive approach is used when the researcher wants to move from the general to the particular. In a

deductive approach, one should start with a theory, or hypothesis, about the nature of the world and then seek the data that will confirm or disconfirm that theory. The main practical advantage of the “hypothesis testing” approach is that there is initial clarity about what is to be investigated, and hence information can be collected speedily and efficiently (Easterby-Smith et al., 1991).

5.2.3 Qualitative and quantitative methodologies

Research methodology refers to the “overall approach to the research process, from the theoretical underpinning to the collection and analysis of data” (Creswell, 1994; Hussey and Hussey, 1997). Methodology is a wider concept than methods, in that methods refer only to the various means by which data can be collected and analyzed, whereas methodology refers to the overall approach to the research process. It is helpful to look at methodology as a decision-making process that is predicated upon sets of background assumptions and paradigms (Birley and Moreland, 1998). Some writers (Bailey, 1978; Hessler, 1992; Cohen and Manion, 1994; Bryman, 2001) distinguish between qualitative and quantitative research methodologies, reflecting the distinction between the various paradigms.

Fierce battles have been fought in the quantitative – qualitative debate (Miles and Huberman, 1994). The controversy stems from a longstanding debate in science over how to best study and understand the world. The dominant views have often favoured quantitative data (Patton, 1987). But even though qualitative research is gaining acceptance in academic social research, it is still questionable whether this represents a real power shift in terms of who will get the best funding and positions in academia.

5.2.3.1 Qualitative research methodology

The qualitative approach is concerned with understanding human behaviour within the participant’s own frame of reference, and how the individual or group creates and interprets the world.

Qualitative research is defined by Strauss and Corbin (1998) as

... any type of research that produces findings not arrived at by statistical procedures or other means of quantification. It can refer to research about persons’ lives, lived experiences, behaviours, emotions, feelings as well as about organizational functioning, social movements, cultural phenomena, and interactions between nations. (p.10-11)

Considerable attention is paid to the subjective state of the individual and the subjective experience of respondents. Qualitative research therefore stresses the importance of the

informant as the primary source of information. Within the framework of the qualitative approach human behaviour and organizational systems are often better studied holistically, allowing all factors to be considered if a fuller understanding is to be gained (Doole, 2000). Qualitative research allows the researcher to get inside a manager's experiences, perceptions, attitudes and values to identify and understand what problem they face, how they will react when they face it, and what enables them to react (Denzin and Lincoln, 1998).

This approach collects qualitative data through critical ethnographies, case studies, action research, evaluation and market research, and historical and biographical research, and is interested in analysing words, not numbers. Key features of the interpretive approach are the small sample investigated in depth or over time. Data collection can take up a great deal of time and resources, and the analysis and interpretation of data may be very difficult. Bryman (2001) summarized the main criticisms of qualitative research by claiming that it is too subjective and too difficult to replicate, and that there are problems of generalization and a lack of transparency.

5.2.3.2 Quantitative research methodology

Quantitative research can be defined as a methodology that primarily seeks to express information numerically, in term of counts or measurements (Remenyi et al., 1998). Quantitative methodology relies primarily on assumptions from the positivist approach to science. The aim of quantitative research is to examine common patterns in a specific population and to develop explanations of cause and effect relationships (Remenyi et al., 1998). Researchers taking this approach use a language of variables, hypotheses, units of analysis and causal explanations. The logical errors that may arise when developing a causal explanation illustrate why it is essential to understand the components of research design and how they relate to one another (Neuman, 1994).

Positivism is founded on the belief that the study of human behaviour should be conducted in the same way as studies conducted in the natural sciences (Hussey and Hussey, 1997). The quantitative approach seeks the facts or causes of social phenomena, with little regard to the subjective state of the individual. Thus, logical reasoning is applied to the research, so that precision, objectivity and rigour replace hunches, experience and intuition as the means of investigating research problems. Quantitative methodologies, based on theories, use variables, develop research hypotheses and test them; by means of large scale surveys or quasi experiments, collects quantitative data (rather than individual cases) in order to succeed in generalizing the data, thus

demonstrating external validity. Since quantitative research usually includes a multitude of variables for a large number of people, large amounts of resulting data have to be reduced by means of statistical procedures to obtain relevant information (Straus and Corbin, 1990). Thus the data resulting from quantitative research provide a “hard” and reliable picture. Furthermore, in a quantitative inquiry the researchers as well as the research subjects are seen as distant from the objects of investigation (Remenyi et al., 1998). Bryman (2001) summarized the main criticisms of quantitative research that it fails to distinguish people and social institutions from the “world of nature”; that the measurement process possesses an artificial and spurious sense of precision and accuracy; that the reliance on instruments and procedures stands in the way of making a connection between research and everyday life; and that the analysis of relationships between variables creates a static view of social life that is independent of people’s lives. Newman (2000) tabulated the distinctions between quantitative and qualitative research, shown in Table 5.2.

Table 5.2: Distinctions between quantitative and qualitative research

Quantitative research	Qualitative research
Objective is to test hypotheses that the researcher generates.	Objective is to discover and encapsulate meanings once the researcher becomes immersed in the data.
Concepts are in the form of distinct variables.	Concepts tend to be in the form of themes, motifs, generalizations and taxonomies; however, the objective is still to generate concepts.
Measures are systematically created before data collection and are standardized as far as possible, e.g., measures of satisfaction.	Measures are more specific to the individual setting or researcher, e.g., a specific scheme of values.
Data are in the form of numbers gained from precise measurements.	Data are in the form of words from documents, observations and transcripts; however, quantification is still used in qualitative research.
Theory is largely causal and is deductive.	Theory can be causal or non-causal and is often inductive.
Procedures are standard and replication is assumed.	Research procedures are particular and replication is difficult.
Analysis proceeds by using statistics and tables or charts and discusses how they relate to hypotheses.	Analysis proceeds by extracting themes or generalizations from evidence and organizing data to present a coherent and consistent picture. These generalizations can then be used to generate hypotheses.

Source: Adapted from Neuman (2000, p.84)

The following section presents the choice of paradigm and methodology in the current research project.

5.2.4 Factors influencing choice of paradigm and methodology

Many researchers (see Creswell, 1994; Yin, 1994; Strauss and Corbin, 1998; Bryman, 2003) have suggested a number of factors be influential in the researcher's selection paradigm and methodology. These factors may include the applicability of adopted strategy, nature and purposes of the research problem, degree of maturity of relevant body of knowledge, and budget and time constraints. Furthermore, Burrell and Morgan (1979) have argued that scholars who believe in an objective social reality are likely to work within the positivist paradigm; in contrast, researchers who believe in a subjective reality are likely to work within the interpretive paradigm.

The choice of methodology for this study is based on several influential factors, which related either to the researcher's beliefs or the nature of the research topic. The phenomenon being studied in this research focuses on testing a new integrated theoretical framework of an ACC and identifying the effects of a FAC on it. Therefore, the researcher's enquiry is focused on the variables that affect students' intentions to pursue an accounting career and how the constructs of such intentions might change after taking their FAC. Therefore, based on the researcher's beliefs (ontological and epistemological) and the objectives of the study, the present research was conducted within the positivist paradigm (Chua, 1986). This is in accordance with the most popular and most widely accepted approach taken by researchers in accounting career choice (Nelson, 1992; Cohen and Hanno 1993; Felton et. al., 1995; Marriott and Marriott, 2003) and in educational and vocational psychology research (Leong et al., 2005; Germeijs and Verschueren, 2006; Shevlin and Millar, 2006).

The present study has adopted the positivistic paradigm for the following specific reasons:

1. There is a considerable body of research about decision making and specifically about career decision making.
2. There is a significant body of research in the accounting literature concerning the factors that affect an ACC. Therefore, there is not a need for a qualitative study to explore the general factors that affect career choice or the specific factors that affect an ACC.
3. However, there is no research reported in the accounting literature that integrates all the constructs of an ACC under a theoretical framework so as to test the model with a large population, and to investigate how traditional and

innovative FACs affect the determinants of career choice. The next section presents the overall research process implemented in the current research.

5.3 Research design of study

The decision to adopt a particular research paradigm and a particular research methodology (qualitative or quantitative) is not enough to get far along the road of doing research (Bryman, 2001). Two other key decisions have to be made along with choices of a specific research design and methods of data collection and analysis. “The function of a research design is to ensure that the evidence obtained enables us to answer the initial question as unambiguously as possible” (DeVaus, 2001, p.9). According to Zikmund (2003), a research design covers strategic decisions concerning the choice of data collection methods and more tactical decisions regarding measurement and scaling procedures, questionnaires, samples and data analysis. Therefore any research needs an integrated design or a complete structure before data is collected.

Research can be carried out according to different research designs or strategies depending on the paradigm within which it is placed and the problem it aims to investigate. Larsen-Free and Long (1991) have stressed that not only the choice of an *a priori* research paradigm or even of the methodology (quantitative or qualitative) is important, but also the purpose of the research and how that purpose can be matched with the research design. The research problem and hence the research objectives have a major impact on the choice of methodology and research design, on data collection and analysis and hence on research results and conclusions (Fellows and Liu, 1997). Therefore, selecting an appropriate research design is not an easy task and a number of issues need to be considered. The researcher must not be constrained in her/his choice of a particular design and requires a deep understanding of the context of the research.

The current study is concerned to deduce results from its data, using a conceptual framework that is informed by behavioural, vocational and accounting research. The deductive research process starts from a theory to deduce hypotheses that should be empirically tested by analysing the collected data and research findings (Hussey and Hussey, 1997; Gill and Johnson, 1997). This research further intends to investigate causality effects, i.e., the effects of the FAC on the constructs of an ACC. In this study, the fundamental research concern is with establishing a cause and effect relationship between independent and dependent variables, rather than mere relationships between

them. Considering the objectives and logic of the present thesis on the one hand and the available research methodologies on the other hand, it is clear that a quantitative research design is the most appropriate to be followed to achieve the research objectives.

5.3.1 Research process

In order to achieve the research objectives of the study, the research is divided into three stages. The stage one aims to develop an integrated theoretical model for making an ACC. As little work exists on the chain of decisions that make up an ACC (Marriott and Marriott, 2003), on the constructs involved and the relationships between them, an exploratory study seems most appropriate. The stage one, as a piece of exploratory research, provides an opportunity to formulate and develop hypotheses for a more precise investigation in the stages two and three of the research into an ACC. Also, during this stage the constructs identified for the new framework of an ACC will be incorporated to build detailed and relevant instruments for the second and third stages of the research.

Once the framework of an ACC has been identified and the new instrument has been developed in the stage one, the study will move on to the next stage to deal with the third, fourth and fifth research objectives. As these research objectives are to empirically test the relationships between the constructs of an ACC, to identify the differences between students with positive, neutral and negative intentions, and to investigate the effects of a FAC on the model constructs, the stages two and three will be studies of causal relationships (i.e., hypothesis testing), for which a quantitative approach has been adopted.

As Sekaran (2000) notes, studies that engage in hypothesis testing usually explain the nature of certain relationships or establish differences between groups or the independence of two or more factors in a situation, both of which are relevant to the objectives of the stages two and three of the research. As a causal study, the stage two will use multivariate data analysis because various dependent and independent variables are involved with regard to an ACC. Although the stage two is basically a hypothesis testing study, a descriptive approach will also be partly employed to present not only the characteristics of students (such as demographic data) but also descriptive information for subjective norms, attitudes, work values and beliefs, perceived control and intentions to pursue a career in the AP.

Stage three of the study will use bivariate and multivariate data analyses to test hypotheses concerning the effects of the FAC on the ACC model constructs and regarding the differences between traditional and innovative accounting courses.

5.3.2 Research model of study

To provide a working definition of the relationships between the various strategies, a research model (Figure 5.1) was constructed to give a clear picture of the components that the research examined.

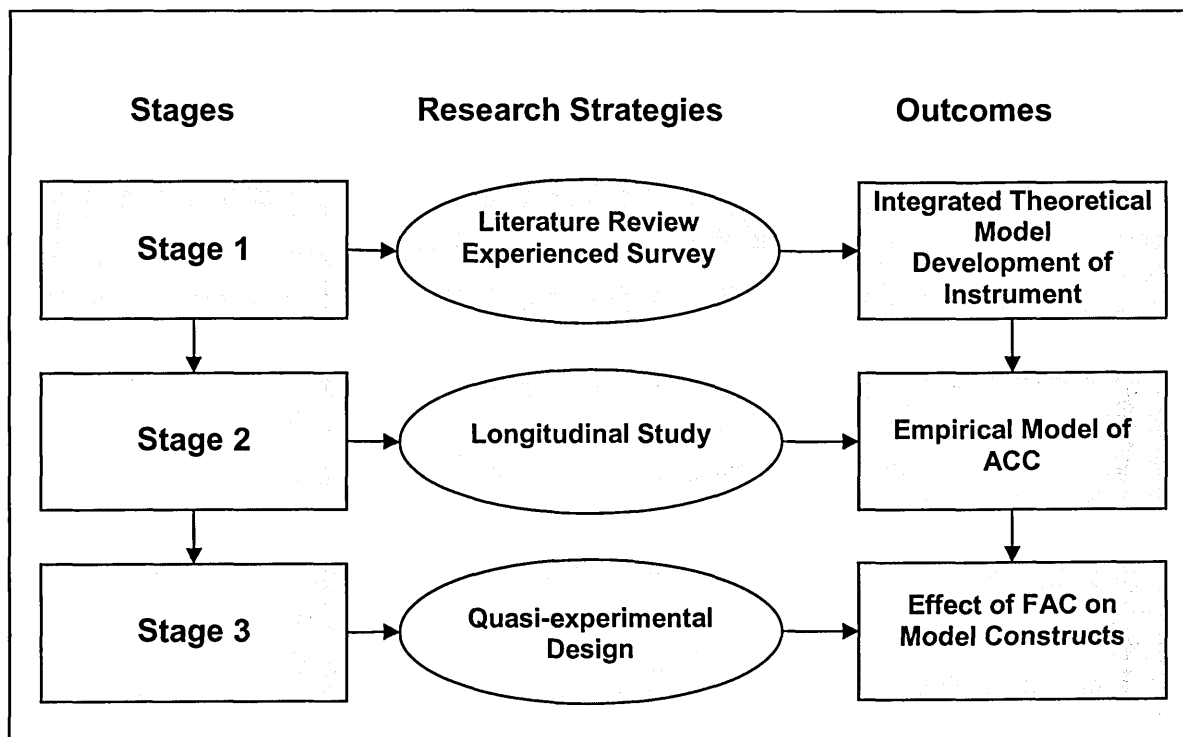


Figure 5.1: Research model of study

As shown in Figure 5.1, the study incorporates three research strategies to accomplish its research objectives.

5.4 Research strategies

5.4.1 Research strategy for stage one

As suggested above, in stage one the first objective is to identify the constructs of the ACC, and the second objective is to develop a new instrument to investigate and examine the relationships between the constructs of the ACC.

In the early stages of this research, the researcher did not have an adequate understanding of the problems posed by an ACC and the constructs involved.

Exploratory research is conducted whenever not much is known about the situation at hand or when little information is available on how similar problems or research issues have been solved in the past (Easterby-Smith et al., 1997; Sekaran, 2000). An exploratory investigation is particularly helpful in breaking down broad, vague problem statements into specific hypotheses (Churchill, 1999). The exploratory design aims to look for patterns, ideas or hypotheses, rather than testing or confirming a hypothesis (Hussey et al., 1997). According to Churchill (1999), there are four types of exploratory studies: literature search, experience survey, focus group and analysis of selected cases.

Literature searches were conducted on ACC, on decision making and on vocational choice theories. A literature review provides a historical record of a research problem. The review of the literature on ACC identified some important issues as “open for discussion”. It was discovered that there was no broad theoretical framework available for an examination of students’ ACC and for an investigation of the effects of a FAC on students’ ACC. Therefore, this study combined well-established theories on decision making and on career choice to develop a new theoretical framework of an ACC. A theoretical framework is a conceptual model of how one makes logical sense of the relationships among the several factors that may have been identified as important to a problem (Sekaran, 2000). Churchill (1999) has argued that “in a literature search, as in any exploratory research, the major emphasis is on the discovery of ideas and tentative explanations of the phenomenon and not on demonstrating which explanation is the explanation. The demonstration is better left to descriptive and causal research.” (p.105; emphasis in original).

Furthermore, during stage one of the research, the current researcher in order to operationalize the constructs of ACC has used an “experience survey” to identify accessible attributes and outcomes associated with the accounting profession and any significant person/s that affect students’ ACC, and possible self-efficacies that facilitate or impede an ACC (see Section 5.4.1.2.1). “The experience survey, sometimes called the key informant survey, attempts to tap the knowledge and experience of those familiar with the general subject being investigated” (Churchill, 1999). The outcomes of this stage of the research are presented below.

5.4.1.1 Integrated theoretical framework of ACC

The literature search has provided a strong basis for the development of a new theoretical model of an ACC that integrates students’ subjective norm, attitude,

perceived control and intention to pursue an accounting career (see Chapter 4, Figure 5.7).

Based on the above integrated theoretical model the following constructs/main variables will be examined in the next two stages of this study:

The variables of the study

- Intention to pursue a career in the AP
- Subjective norms concerning the pursuit of a career in the AP
- Beliefs concerning extrinsic, intrinsic, social and prestige attributes and outcomes associated with the AP (Perception of the AP)
- Work values (Extrinsic, Intrinsic, Prestige and Social Work values)
- Extrinsic dimension of attitude (Extrinsic Beliefs x Extrinsic Work values)
- Intrinsic dimension of attitude (Intrinsic Beliefs x Intrinsic Work values)
- Prestige dimension of attitude (Prestige Beliefs x Prestige Work values)
- Social dimension of attitude (Social Beliefs x Social Work Values)
- Attitudes towards pursuing a career in the AP
- Perceived control over pursuing a career in the AP
- Time dimension (beginning and end of the FAC)
- Traditional and innovative first accounting course (FAC)
- Impression of accounting educator
- Perception of FAC

The “variable” is a central idea in quantitative methodologies. Variables refer to the properties or attributes that can be clearly identified and measured in some way (Nachmias and Nachmias, 2000). We use variables in place of concepts for constructing and testing hypotheses. The language of quantitative research is a language of variables and relationships among variables (Neuman, 1994). Researchers who focus on causal relations usually begin with an effect and then search for its causes. Variables are classified into three basic types depending on their location in a causal relationship: The *independent* variable is the cause variable, the one that identifies forces or conditions that act on something else; the *dependent* variable is the effect or result, the outcome of another variable, the *independent* variable. The *confounding* or *extraneous* variable is a third type of variable that comes between the independent and dependent variables (Nachmias and Nachmias, 2000). Extraneous variables are undesirable variables that influence the relationship between the dependent and independent variables that an

experimenter is examining (Marriott, 1998). A major goal in research design is to decrease or control the influence of extraneous variables as much as possible (Marriott, 1998).

5.4.1.2 Development of instrument

5.4.1.2.1 Pre-Pilot work I

During the winter semester 2004-2005, 87 management students at Higher Technological Educational Institutions (ATEI) in Athens volunteered to participate in this pre-pilot study. They were asked in an open-format questionnaire to write the attributes and outcomes they associated with accounting jobs, the opinions of important social referents concerning a career in the AP and possible barriers to following a career in the AP. These students were excluded from the study sample in later stages of the research. The analysis of open-format questionnaires revealed that in general these students cited attributes and outcomes associated with the profession that were the same general job characteristics that work value theory has identified. The characteristics that students indicated most frequently and which appear to be the dominant beliefs concerning the attributes and outcomes associated with the AP (Fishbein, 1963; Fishbein and Ajzen, 1975) are: interesting job, salary, job security, learning new things and developing skills and competencies, job relevant to their studies, convenient hours of work, promotion, using business skills and competencies, advancement in business position, autonomy, work environment, to be leader in the workplace, extra economic benefits, using new ideas, self-esteem and social status. Students did not cite any attribute concerning the social nature of the AP. Important influences on a decision to pursue a career in the AP were family (parents and other relatives), friends, peers, teachers, accountants, business people and the social environment. They identified as dominant barriers to following a career in the AP a degree relevant to the AP, the professional exams to qualify as accountants, finding a first job as accountant and possessing the skills and abilities to be an accountant.

Using the results of the pre-pilot work, the literature review on work values theory and the literature review on ACC, to guide item writing, the researcher has developed a pool of items representative of attitude, subjective norm and perceived control: 159 items for attitude (83 for behavioural beliefs and 77 for work values), 16 items for subjective norm (8 for normative belief strength and 8 for motivation to comply), and 16 items for perceived control (8 for strength of control beliefs and 8 for power of control). Furthermore, 10 items were used to measure the students' intention towards

following an accounting career (Silvia, 2001). There were two versions of the initial pool of items, an English-language and a Greek-language version.

5.4.1.2.2 Pre-pilot work 2

The initial item pool was assessed by a panel of experts. English and Greek experienced accounting educators, PhD students in accounting and undergraduate management students evaluated the items and suggested changes to eliminate repetitive and ambiguous or confusing items. Also during the pre-test study, both the Greek and English language versions of the questionnaire were reviewed by various members of the Business Administration Department at ATEI of Athens. This was done to obtain their opinions on the repetitive and ambiguous or confusing items as well as on the translation of the questionnaires. The pre-test study demonstrated that the questionnaire was reasonably well understood, but some changes were found to be necessary. This process resulted in several substantive changes to the questionnaire.

After the evaluation by experts, a final selection of 191 items remained in the list: 151 items concerning attitudes (79 items concerning behavioural beliefs and 72 items concerning evaluation of work values), 16 items concerning subjective norms, 16 items concerning perceived control and 8 items concerning intention.

5.4.1.2.3 The main pilot study

After the pre-pilot step, the second step was to try the questionnaire out on people who were similar to those in the research sample. Questionnaire surveys often face difficulties before the questionnaires reach their final versions. It is important to conduct a pre-test study before administering a self-completed questionnaire to respondents. The rationale for conducting a pre-test study was not only to ensure that the questionnaire worked well, but also to ensure that the research instruments as a whole functioned well. Oppenheim (1992, p.47) stated that “questionnaires have to be composed and tried out. Improved and then tried out again, often several times over, until it is certain that they can do the job for which they are needed”. After designing a questionnaire and pre-testing it, there is still a need to undertake a pilot study to ensure that it is free of any discrepancies or will not lead to misunderstandings as far as it is possible to anticipate them (Goode and Hatt, 1952). A pilot study was carried out to raise issues that might need to be addressed before the more formal survey in the final stage. The pilot study addressed issues of reliability and validity of the items developed for the design of scales. In this process the initial pool of items developed in the previous step is refined to arrive at an initial scale, deciding on such operational issues as types and sequence of

questions, scaling of items, sample chosen, instructions and pilot-testing the initial scale. The selected items were presented in questionnaire format in preparation for data collection. In this stage of initial development of the questionnaire, the instrument of 191 items was administered to 73 first-year Greek accounting students and to 112 first-year Greek management students at ATEIs in Piraeus and Athens, during the spring semester of 2005, a total sample of 195 students. Of these, 174 were usable questionnaires, collected from 99 males and 75 females. Participants ranged in age from 18 to 26 years.

During the developmental stage many items with adequate reliability and validity were identified for the development of scales. However, for reasons of parsimony (Spector, 1981) it was decided to keep as few items as possible. Therefore, in the questionnaire used in the main study, only items with higher values on Cronbach alpha coefficients and items loading higher in each of related factors were included. At the end of the runs of reliability and factor analyses, a total of 55 items concerning attitude (39 behavioural beliefs and 16 work values), 8 items concerning subjective norm (4 normative belief strength and 4 motivation to comply), 8 items concerning perceived control (4 strength of self efficacy beliefs and 4 importance of relevant vocational self efficacies), and 5 items of intention to pursue an accounting career were extracted ready for the main study. After the pilot study, which helped the researcher to finalize the design of the study instrument, confidence that this questionnaire would facilitate the collection of the empirical data needed had greatly increased. As a result, all the subsequent stages in the research process will be informed by the integrated theoretical framework and the development of the new instrument.

5.4.2 Research strategy for stage two

In the second stage of this study, the objectives are, firstly, to empirically test the model of causality linking subjective norms, beliefs concerning the attributes and outcomes associated with the AP, work values, attitudes and perceived control variables as the antecedents of an ACC. The second objective is to identify whether there are differences in terms of the constructs of the model of an ACC between students with positive, neutral and negative intentions respectively. To achieve the above objectives, a longitudinal research strategy was adopted.

5.4.2.1 Longitudinal survey

A longitudinal survey “is a study involving the collection of data over a period of time in order to examine changes that occur in the intervening periods” (Jones, 1996, p.334). With a longitudinal design, a sample is surveyed, and surveyed again on at least one further occasion (DeVaus, 2001). Many researchers have agreed that longitudinal research designs are among the most powerful and useful available in the social sciences (Churchill, 1999; Sekaran, 2000). This is because a large number of respondents can be assessed on a large number of variables, allowing at the same time for the free variation of the variables under investigation so the nature and strength of any hypothesized relationship can be determined. A longitudinal design allows for safe conclusions about any causality relationships among the variables under investigation (Spector, 1981; Hussey et al., 1997; Churchill, 1999).

The present study adopts a form of longitudinal design that is an extension of social survey research methods based on self-completion questionnaires in a cross-sectional design (Churchill, 1999; Bryman and Bell, 2003) to test the model of ACC at the beginning and at the end of the FAC, over a period of five months. In this study data was collected from students for the variables under investigation at the beginning and the end of their first academic semester. Students, who had not completed the questionnaire either at the beginning or at the end of the semester, were not excluded from the sample. The collected data at the beginning and the end of the FAC was analysed separately to evaluate the model of ACC.

Some of the important rationales for using the survey design in this research were presented by Babbie (1998, pp.40-44). Babbie listed the following advantages of survey research: (1) survey research can be used profitably in the examination of many social topics and can be especially effective when combined with other methods; (2) survey data can facilitate the careful implementation of logical understanding; (3) the fact that the survey format permits a clear and rigorous elaboration of a logical model clarifies the deterministic system of reasons for and sources of observed events, characteristics, correlations, and cause and effect; (4) a sample survey is never conducted for the purpose of describing the particular sample under study, rather it is conducted for the purpose of understanding the larger population from which the sample was initially selected; and (5) because survey researchers have a larger number of variables at their disposal, they are in an excellent position to carefully examine the relative importance

of each and obtain the greatest amount of understanding from the fewest number of variables.

The outcomes of this research stage are presented in Chapter 7.

5.4.3 Research strategy for stage three

The objectives of the stage three are, firstly, to examine the influence of a “traditional” and an “innovative” first accounting course on students’ subjective norm, attitude, perceived control and intention to pursue a career in the AP, and secondly, to identify differences between two experimental groups – traditional and innovative – in terms of the ACC constructs.

5.4.3.1 Quasi-experimental research design

It is generally accepted that some designs are preferable, or “more appropriate”, for their strength in permitting causal inferences from study results. The most preferred is the true experimental design which, it is argued, successfully accounts for most threats to internal validity. The experimental research design is a research technique that allows researchers to determine how selected variables influence an outcome variable (DeVaus, 2001). Researchers use an experimental design to make judgments about causes and effects. An experiment is a form of empirical study where the researcher has control over some of the conditions under which the study takes place and over the independent variables being studied (Marriott, 1998; Bryman, 2001). Experimental research builds on the principles of a positivist approach more directly than do any other research strategy (Neuman, 1994).

In both the natural and the social sciences, the most conventional type of experiment involves three major pairs of components: independent and dependent variables, pre-testing and post-testing, and experimental and control groups (Babbie, 2004).

Essentially, an experiment examines the effect of an independent variable on a dependent variable. The independent variable takes the form of an experimental treatment, which is either present or absent. The treatment is a dichotomous variable, having two attributes, present or not present. Precise descriptions of independent variables are crucial to an experimental design. In this conventional model the researcher compares what happens when the treatment is present or when it is not. Dependent variables in experimental research are the physical conditions, social behaviours, attitudes, feelings and beliefs of subjects that change in response to a

treatment. Researchers want the treatment to have an impact on the dependent variable and produce specific reactions, feelings, beliefs, attitudes or behaviours (Neuman, 1994).

Frequently, in an experimental research design, a researcher measures the dependent variable more than once during an experiment. Experimental designs are longitudinal in nature since data are collected both before and after an intervention. Subjects are measured in terms of a dependent variable prior to the introduction of a treatment (pre-testing), then exposed to a treatment (independent variable) and then subjects are measured again in terms of the dependent variable (post-testing) (Babbie, 2004).

Researchers conducting experimental studies often divide subjects into two or more groups for purposes of comparison. The group that receives the treatment constitutes the “experimental group” and group that does not receive the treatment constitutes the “control group”. Using a control group allows the researcher to detect any effects on the experiment itself. Randomly assigning cases to experimental and control group is perhaps the signature characteristic of true experiments in intervention research. Randomly assigning subjects to experimental and control conditions provides certainty those differences between groups on dependent variables measures are the result of the treatment. The assumption is that all variables, except the independent variable, will be randomly distributed and hence the control and experimental groups will be equivalent and thus comparable (Gill and Johnson, 2002). This is primarily a matter of internal validity. One way to achieve comparable groups and high precision in a study is to match pairs of students on a variable that is salient to outcomes in the study and then randomly assign one member of each pair to each condition (Cook and Campbell, 1979). Most research is concerned not only with the effect of one variable on another in the particular setting studied but also with its effect in other natural settings and on larger populations. This concern is referred to as external validity of the research design.

This study has used a type of true experimental design: a quasi-experimental research design to test further the internal validity of the proposed model and to investigate the effect of two types of FAC (traditional and innovative) on the ACC model’s constructs. A quasi-experimental design may be the only suitable alternative when random assignment of research subjects is not possible (Cook and Campbell, 1979). Since the publication of Campbell and Stanley’s (1963) classic monograph, which urged researchers to move into real-world settings, researchers have frequently

used the quasi-experimental designs described by Campbell and Stanley. They are called “quasi” because they are a variation on the classical experimental design and facilitate the search for knowledge and the examination of causality in situations in which complete control is not possible.

Quasi-experimental designs help researchers test causal relationships in a variety of situations where the classical design is difficult or inappropriate (Neuman, 1994). Quasi-experimental designs select subjects rather than randomly assigning them to a treatment. Quasi-experimental designs often allow researchers to select random samples from the population, but they do not require the random assignment of individual cases to the comparison groups (Nachmias and Nachmias, 2000). They have certain characteristics of experimental designs, but they do not fulfil all of the internal validity requirements (Bryman, 2001). In all quasi experiments, the researcher has less control over the independent variable than in the classical design but they are practical, feasible and to certain extent, generalizable.

A pre-test / post-test non-equivalent control group design (Cook and Campbell, 1979; Wiersma, 1995) is being used to evaluate the effect of a traditional and an innovative FAC on constructs that affect students' intention to pursue a career in the AP. This most commonly used quasi-experimental design, the comparison group pre-test/post-test design (the non equivalent groups design), is the same as the classic controlled experimental design except that the subjects cannot be randomly assigned to either the experimental or the control groups or the researcher cannot control which group will get the treatment. In other words, participants do not have the same chance of being in the control group or the experimental group, or of receiving or not receiving the treatment (Table 5.3).

Table 5.3: Quasi-experimental design – Non-equivalent control group

Groups	Beginning of semester Pre-test	During semester Treatment	End of semester Post-test
Traditional FAC	O1	X1	O2
Innovative FAC	O3	X2	O4
Control Group	O5		O6
Where Ox=observation of pre-test and post-test X1,X2=Treatment/intervention			

The study will employ seven treatment groups and one control group. Of the seven experimental groups, five groups (called “Traditional FAC”) received as treatment the traditional FAC and two groups (“Innovative FAC”) received as treatment

the innovative FAC. All groups will be pre-existing, intact, “natural” groups. A weakness in all quasi-experiments using natural groups is that there are possible violations of the assumption of initial equivalence (Cook and Campbell, 1979). Problems with quasi-experiments are particularly severe when pre-test differences between treatment and control groups exceed one-half standard deviation (0.5 SD) on relevant criterion measures (Nachmias and Nachmias, 2000). In order to overcome this problem and to assign students with identical initial beliefs concerning the variables under investigation to two treatments groups, this study conducted an ANOVA test. No significant differences of initial equivalence were identified between the population of the study in terms of subjective norm, attitude, perceived control and intention to pursue a career in the AP, at the beginning of the FAC (see Section 8.3.2). The third stage of the study will be conducted in three phases and comparisons will be made between experimental and control groups; this allows more definite conclusions to be drawn than in a study without any manipulation of data. Similarities and differences could be identified and explanations offered, given that the relationships between variables had already been identified in earlier stages.

5.4.3.2 Limitation of quasi-experimental research

Researchers have described a number of factors that may limit the validity of a quasi-experimental research design. Such limitations are related to the internal and external validity of the research (Marriott, 1998).

Internal validity in an experimental design refers to the researcher’s ability to eliminate alternative explanations of dependent variables. Variables, other than the treatment, that affect the dependent variable are threats to internal validity. They threaten the researcher’s ability to say that the treatment was the true causal factor producing change in the dependent variable (Neuman, 1994). Authors have identified many potential threats to internal validity, such as:

- **History** – Unexpected events occur between the pre-test and post-test, affecting the dependent variable.
- **Maturation** – Changes occur in the participants, from growing older, wiser, more experienced, etc., during the study.
- **Testing** – Taking a pre-test alters the results of the post-test.
- **Instrumentation** – The measuring instrument is changed between pre-testing and post-testing or a single measuring instrument is unreliable.

- **Statistical regression** – Extremely high or extremely low scorers tend to regress to the mean on retesting.
- **Differential selection of participants** – Participants in the experimental and control groups have different characteristics that affect the dependent variable differently.
- **Mortality** – Different participants drop out of the study in different numbers, altering the composition of the treatment groups.
- **Selection-maturation interaction** – The participants selected for treatment groups have different maturation rates. Selection interactions also occur with history and instrumentation (Gay and Airasian, 2000, pp.372-376).

External validity or generalizability depends on whether the observed behaviour (measurement) is representative of the people, the surrounding conditions and the treatments to which we now wish to extend it (Neuman, 1994). An indication of external validity is the degree to which the outcomes of the research can be generalized to individuals beyond the study sample. Researchers have identified many potential threats to external validity, such as:

- **Pre-test-treatment interaction** – The pre-test sensitizes participants to aspects of the treatment and thus influences post-test scores.
- **Selection-treatment interaction** – The non-random or volunteer selection of participants limits the generalizability of the study.
- **Multiple treatment interference** – When participants receive more than one treatment, the effect of prior treatment can affect or interact with later treatments, limiting generalizability.
- **Specificity of variables** – Poorly operationalized variables make it difficult to identify the setting and procedures to which the variables can be generalized.
- **Treatment diffusion** – Treatment groups communicate and adopt pieces of each other's treatment, altering the initial status of the treatment comparison.
- **Experimenter effects** – Conscious or unconscious actions by the researcher affect participants' performance and responses.
- **Reactive effects** – The fact of being in a study affects participants from their normal (Gay and Airasian, 2000; pp.377-383).

All of the above limitations of a quasi-experimental research design have been taken into account; the researcher has also tried to use different statistical and other

techniques to ensure that the results of the study have not been violated by any of the above threats.

The outcomes of the quasi-experimental research stage are presented in Chapter 8.

5.4.4 Controlling for confounding variables

Identification of and dealing with potentially confounding variables is a major validity issue in any research design (e.g., Cook and Campbell, 1979; Spector, 1981; Graziano and Raulin, 1989; Marriott, 1998). Controlling for the effects of other variables, or as many of them as possible, is, therefore, imperative for the validity of the study. Previous studies (such as Evans, 1974; Paolillo and Estes, 1982; Inman et al., 1989; Felton et al., 1994; Hunt et al., 2004) have reported on the important role of accounting instructors / teachers in the recruitment of future accountants. Albrecht and Sack (2000) and Byrne and Willis (2005) have stressed that accounting educators are an important determinant of an ACC and can affect the variables employed in the present investigation and their inter-relationships. Furthermore, accounting researchers have supported the view that the FAC is an important factor that affects students when considering accounting as a major and as a profession (Stice et al., 1997; Saeman and Crooker, 1999; Geiger and Ogilby, 2000). Variables of this type were not of interest in the present investigation, but their effects must be controlled for their potential to confound results. A method of statistical control at the data analysis stage was chosen. Statistical control is recommended by a number of authors (e.g., Spector, 1981). Not only will the procedure of statistical control protect against confounding of results, but use of a statistical control method will also provide information regarding whether any identified relationships among the variables of interest exist, above the effects of the confounding variables.

The possibility of the effect of accounting educator and of students' perceptions of the FAC being confounding variables in the current study was statistically controlled for by determining if there was a significant relationship between the variables of accounting educator and FAC and the variable of intention (Section 7.6.2). Two new scales for the confounding variables were developed, namely, impression of accounting educator scale with 14 items and perception of FAC scale with 13 items.

5.5 Settings and subjects

5.5.1 Settings

Education in Greece is a social benefit and it is provided free of charge at all levels to all Greek citizens. There are also many private schools that cover all sectors of education but degrees from private colleges and universities are not recognized by the Greek State. Post-secondary education is divided into university-level and non-university (but still tertiary-level) education and this is offered by the Higher Technological Educational Institutions (ATEIs). Higher education entrance examinations (which are national examinations) constitute a highly selective procedure, which takes place on just one day for each of the examined subjects, and success in the exams grants the candidate a prestigious place at a Greek University or an ATEI (Gouvias, 1998). National examinations take place at the end of high-school, when students are about 18 years old (see Appendix 5.1 for a description of the Greek education system).

5.5.1.1 Higher Technological Educational Institutes (ATEIs)

ATEIs are self-governing institutions, but come under the supervision of the Ministry of Education. ATEIs aim to provide higher education in both theory (in the classroom) and practice (in laboratories, business, experimental fields, organizations and public or private establishments linked with the ATEI). ATEI graduates, according to Presidential Decree 2327/1995, have the right to enter a process for the selection of higher education graduates for post-graduate programmes (Master or PhD) at Greek universities. ATEI graduates are also accepted into post-graduate courses at most foreign universities.

The Higher Technological Education Institutes were founded by Presidential Decree 1404/1983 and evolved out of the National Centres for Technical and Professional Education (KATE), which were abolished by the same Presidential Decree. All current stipulations and requirements for studies at an ATEI are defined by Presidential Decree No. 498/84 and its amendment No. 189/89.

The academic staff at an ATEI is divided into three categories of permanent staff and two categories of contract staff. The duty of all permanent staff is to support the teaching needs of their institution, to conduct scientific research and to undertake administrative duties as needed. The highest level category of permanent staff is that of a professor. Current legislation requires that candidates for a professorship have successfully completed a PhD in their field; have at least seven years of professional

experience; a proven record of autonomous research; a sufficient number of publications as sole or principal author in internationally acknowledged and refereed journals; and citations of their published work. The intermediate level category is that of an assistant professor. A legislative amendment introduced in 1996 requires that candidates for an assistant professorship have successfully completed a PhD in their field; have at least four years of professional experience; demonstrated the ability to corroborate in the planning and conduct of research; and publications in internationally refereed journals or in proceedings of international conferences (with at least one publication as sole or principal author).

In recognition of their teaching and practical experience (and as an exception to the above qualification requirements) several members of the academic staff were granted assistant professorship or professorship status in the transitional years leading from the Centres of Technical and Professional Education to today's Technological Education Institutes.

5.5.1.2 Department of Business Administration

The degrees in Business Administration awarded by ATEI have a four-year duration, divided into eight independent semesters. During the three first semesters of their studies, students take general business science courses such as Economics, Financial Accounting, Management Accounting, Maths, Statistics, Law and Information Technology, as well as introductory courses on business administration and management. During the next four semesters, students take more advanced modules such as Strategic Management, International Management, Tax Accounting, Financial Management, Auditing, Research Methodology, Electronic Commerce, Logistics and Advanced Statistics. Accounting modules offered by the Business Administration departments are Financial Accounting I and II, Management Accounting, Tax Accounting and Financial Statement Analysis.

The last semester of the Business Administration degree includes a placement and a dissertation. It is compulsory for every student to complete a dissertation on a subject that is directly related to business administration. In part fulfilment of the BA degree students must complete six months, during the last semester, of an attachment with an established private or public sector company with more than 10 employees.

After completion of their studies, graduates are called "management graduates", and have the necessary scientific and technical knowledge and skills to work in all fields of the subject matters taught in the Business Administration departments of ATEIs,

either self-employed or employed as heads or executives of public and private sector businesses, organizations and services, for example:

- Defining a business environment.
- Programming, organizing, guiding and monitoring business management activities.
- Analysing human behaviour in a business environment.
- Proposing work remuneration systems and employee participation schemes, combined with analysing productivity problems of a business.
- Proposing staffing procedures.
- Analysing production systems and procedures, as well as contributing to solving general production management issues.
- Analysing business financing problems.

Business management graduates can work at all levels of a management hierarchy related to their fields of expertise. They can qualify as professional accountants in classes D, C and B under the regulations of the Chamber of Economics of Greece (OEE) (see Section 2.3.2). Management graduates can also work as members of research teams on issues related to their expertise.

5.5.1.3 First accounting course (FAC)

The FAC in a BA Department in an ATEI is a textbook-driven course that concentrates on the more mechanical (bookkeeping) aspects of accounting. All students enrolled in a BA department are required to take the first course in accounting. The FAC is taught in the first academic semester with between 4-6 hours of classes per week (varying among ATEIs). The lecture method with big classes of students (around 60-150 students) is used almost exclusively. The course content is technical, difficult and demanding, with the topics covering financial reports (balance sheet, profit and loss statement), journal entries, postings and transactions mechanics, offering little integration of business subject matters. Assigned homework consists of exercises and problems that have only one correct answer.

There are two written assessments at the end of the semester and students have to pass this assessment of the module in order to progress to the next accounting modules of the Business Administration curriculum. The assessment of the FAC varies between different ATEIs and instructors. Management students are given an accounting text book

free for their course but the text chosen varies from ATEI to ATEI and instructor to instructor.

5.5.2 Subjects

The main purpose of sampling is to select a small number of cases (people, households, organizations, etc.), with the sample assembled in such a way as to be representative of the population from which it is taken (Malhotra, 2004). In addition, the major reason for conducting a questionnaire survey is to determine which subjects should be surveyed so as to obtain appropriate information for the investigation of the research problem (Malhotra, 2004). In the current study the units of analysis are management students of the Higher Technological Educational Institutions. Bless and Higson-Smith (1995) state that “the first means of ensuring a representative sample is the use of a complete and correct sampling frame, which is the list of all units from which the sample is to be drawn”. In this study, the sampling frame was all the students which enrolled in the FAC in the Higher Technological Educational Institutes during the winter semester of 2005-2006.

Management students enrolled in FACs at the seven biggest ATEIs in Greece (out of a total of ten) participated in the study. This selection ensures that the sample was representative of the population under investigation and big enough for using advanced statistical techniques. Data was collected only from students who attended class on the days the instrument was administered. The survey days were not announced in advance. Although participation in the study was voluntary, the rate of participation was nearly 100 percent for those students in attendance on the day, because the instruments were administered by the researcher under the supervision of the instructor during class time.

Group A consists of all management students enrolled in all sections of the FAC at five ATEIs (ATEI of Patra, ATEI of Xalkida, ATEI of Larisa, ATEI of Kozani and ATEI of Seres), which was a traditional FAC run during the winter semester in 2005. Group B consists of all management students enrolled in all sections of the FAC at two ATEIs (ATEI of Athens and ATEI of Piraeus), which was an innovative accounting course run during the winter semester 2005. Group C consists of students in a sample of non-business courses at the ATEI of Athens during the winter semester 2005-2006.

Only students from Business Administration departments of ATEIs participated in this research as the purpose was to investigate relationships between subjective psychological vocational variables, controlling for the effects of structural variables (different educational background, nationality and social status). Researchers

conducting studies with special populations are faced with the extraordinary challenge of identifying populations that are sufficiently homogeneous to constitute a group and yet large enough to provide adequate power for group comparisons. Calder et al. (1981) stress that the use of homogeneous samples enhances the validity of the statistical conclusions.

5.5.2.1 Screening to determine usable cases

A total of 699 responses were received from students in the first round and 571 in the second round of the instrument. After checking for internal consistency and verification, of the 699 questionnaires received in the first round, 628 were deemed usable, with 586 from management students and 42 from engineering students; and of the 571 questionnaires received in the second round, 522 were deemed usable, with 485 from management students and 37 from engineering students. All these cases are included in the stage two of the research in order to empirically test the new model of an ACC.

Student identification numbers were requested of participants both times the questionnaires were administered for use as a key to match their first and second responses in the stage three of the research. For a total of 321 students, the first and second data sets were successfully matched by identification number. Further, subjects who had previously taken accounting courses in high school or in an ATEI were excluded from groups A, B and C in the research stage three. A total of 250 students, 215 management students and 35 non- management students, were included for the investigation of the effect of the FAC on the model of an ACC constructs. The matching procedure was necessary in order to perform repeated-measures tests of changes in participants' intentions, subjective norms, attitudes and perceived control between and within subjects.

A failure to match students may be attributed to four causes. First, some students completed the first but not the second questionnaire. Presumably, many of these students were absent on the day of the second administration (resulting in incomplete data, which is the case at the ATEI of Patras); others dropped the course (referred to as "subject mortality"). Second, some students completed the second but not the first questionnaire. Some of these students were absent on the day of the first administration while others joined the FAC after the first administration. Third, some students failed to provide any identification number in one or both administrations (leading to a missing key or keys). Finally, some students provided different identification numbers in the first and second administration.

5.6 Data collection and procedures

5.6.1 Questionnaire as method of data collection

Data were collected by means of questionnaires. The rationale for choosing this method was that it can be used to generate quantitative data on a large number of students who are known to be representative of a wider population in order to test theories or hypotheses as viewed by the integrated theoretical framework of the study. This method has been particularly used to elicit data from management students regarding their intentions to pursue a career in the AP, their normative beliefs concerning the pursuit of a career in the AP, their motivation to comply with their significant referents, their work values and beliefs concerning attributes and outcomes associated with the AP and their self efficacy beliefs concerning the pursuit of a career in the AP. Turney and Robb (1971) argued that a questionnaire is the appropriate means of obtaining information about attitudes, opinions, feelings and facts because of the sensitivity of questions and the idea that respondents may prefer to remain anonymous when they answer questions asked in a questionnaire.

A questionnaire survey is generally cheaper than a large sample of standardized interviews – it does not require a trained staff of interviewers, and all it entails is the cost of planning, sampling, stamps and self-addressed envelopes for the return of the questionnaires (Oppenheim, 1992). In addition, using a questionnaire as a method for eliciting data gives respondents more time to consider their answers, i.e., they have the opportunity to answer at their leisure. Furthermore, the questionnaire, as stated by Mason and Bramble (1979), has the merit of increasing the generality of data and ensuring a greater level of veracity in the respondents' answers. Oppenheim (1992) suggested that the main limitation of questionnaires is the non-response, particularly when respondents have no special interest in the subject of the questionnaire. Researchers using a questionnaire have no control over the respondent's environment and cannot even be sure that the appropriate person completes the questionnaire. These problems will be minimized in this research by using hand delivery of the questionnaire to solve some of the limitations involved in posting it. Questionnaire surveys, using a Likert scale, have been used widely by researchers to test hypotheses regarding the factors that affect the ACC (Paolillo and Estes, 1982; Inman et al., 1989; Felton et al., 1994; Ahmed et al., 1997; Auyeng and Sand, 1997), perceptions of the AP (Cory, 1992; Fisher and Murphy, 1995; Byrne and Willis, 2005) and attitudes towards the AP (Nelson and Vendrzyk, 1995; Marriott and Marriott, 2003; Tan and Laswad, 2006).

Instruments were tailored for each phase of the study and each group, but the general format was consistent. The cover page explained the purpose of the study and provided directions for completing the instrument. The confidentiality of responses was emphasized in both verbal and written instructions. The general format of instrument used in this study is divided into a small introductory section and four sections with the research questions as follows:

Introductory section aimed at collecting demographic information about students, which included student identification number, age, gender, institute, nationality, academic semester and prior courses in accounting.

Part I of the questionnaire aimed at identifying the extrinsic, intrinsic, prestige and social work values of students. Students from all groups at the beginning and the end of the FAC were asked to evaluate the importance of individual work values by using the Likert scale. Just one question for each work value was given. There are two reasons for this: first, as each work value is concrete and highly specific, there is no need to ask multiple questions to measure it; and, second, if more than one question were given for each work value, there would have been too many questions to be dealt with by students.

In this part, eight questions were included regarding the perceived control that students had over their decision to pursue an accounting career.

Part II of the questionnaire deals with measuring the students' degree of agreement with specific attributes and outcomes associated with the AP. Two or three questions for each of 16 individual beliefs concerning the attributes and outcomes were given. Management students indicated on a 5-point scale, from "Disagree Strongly" to "Agree Strongly", the degree to which they agree that the 39 items for attributes and outcomes are associated with the AP.

Part III of the questionnaire contains five more items that assessed students' intention to pursue a career in the AP on a 5-point scale, from "Disagree Strongly" to "Agree Strongly" (Accounting Intention Scale). Furthermore, in this section students were given eight items regarding normative beliefs of significant referents concerning the pursuit of a career in the AP and motivation to comply with significant referents on a 5-point Likert scale.

Part IV consists of questions relating to the "confounding variables" of the study, with 14 items evaluating the impression of the accounting educator and 13 items evaluating perception of the FAC on a Likert scale. This part of the questionnaire was included only with the final distributed questionnaire at the end of the academic

semester. The English and Greek versions of the instrument are presented in Appendices 5.2 and 5.3 respectively.

The questionnaire consisted of positive and negative questions in order to ensure that no underlying weakness existed and to prevent any forming of patterns on the part of students while completing the questionnaire. The items measuring a particular variable were put all together but in a random order within each part of the questionnaire (DeVellis, 1991; Spector, 1992).

5.6.2 Procedures

5.6.2.1 Step 1: Pre-test (treatment)

All groups were administered the questionnaire for the first time (pre-test) during the first two weeks of class (25 September 2005-10 October 2005). This timing was intended to minimize the effect of the course on the initial observation. To ensure the wider participation the questionnaire was completed in the presence of the instructor and the researcher.

5.6.2.2 Step 2: Intervention – traditional and innovative accounting courses

Precision in operationalizing the independent variable becomes increasingly important as replication studies become more refined and synthesis procedures such as meta-analysis become more common (Hardeman et al., 2002; Brown et al., 2003). When analysing similarities and differences between independent variables (instructional interventions) across multiple studies, or when trying to determine the effect that subtle changes in instruction might have on dependent variables, precise instructions are critical.

The treatment will consist of introductory accounting courses, either “traditional” or “innovative”. Traditional courses in the current study are those that adopt the traditional type of lectures: they are oriented towards the preparer of accounting information, and they use a procedural approach that explains economic events using journal entries (see Section 5.5.1.3).

Innovative courses are those that offer exactly the same structure as the traditional courses but additionally students are exposed to one 3-hour presentation concerning the characteristics, attributes and outcomes associated with the AP. In guest speaker events at the ATEI of Athens and the ATEI of Piraeus five experienced accounting practitioners (four males and one female) presented information for the profession from their own experiences. Two of the speakers have their own accounting firms; one speaker is the

accounting and financial director in a big state organization, and another a partner in a big accounting and auditing company. The female accountant is a manager of a big trade automobile company. They were between 30 and 45 years old. Two of the five presenters were graduates of the ATEI of Athens.

The presentations in both ATEIs took place in the middle of the academic semester. One independent accounting academic directed the discussion. Accounting course instructors from the departments attended all the presentations.

During a brief orientation held a few weeks prior to each event, the presenters were appraised of the problems that the AP faces in attracting and retaining high quality students. They were briefed about the stereotypes that many students appear to hold about accounting careers; the students' lack of knowledge about the AP, the characteristics and outcomes associated with different accounting jobs, specifically the nature of the different accounting activities, the variety of career opportunities and the chances for advancement to a top business position.

The presenters were asked to help dispel myths and possible misconceptions about the profession, and also to provide students with information that might foster more positive attitudes towards pursuing an accounting career. They were requested to talk about their personal experiences in accounting, their previous studies and the reasons why they had chosen to pursue an accounting career.

It was also proposed to them that they might provide information about extrinsic factors (security, salary, working conditions), about intrinsic factors (nature of accounting job, business knowledge, continuing professional development, self-esteem), and about prestige factors (advancement in business positions, social status). In follow-up discussions, the accountant presenters indicated that they had spent 1-2 hours preparing and structuring their presentation for the event.

The accountants gave students detailed descriptions of how they spent their working day, describing the broad range of accounting and management activities they were involved in and aspects of decision making required of them in their everyday duties. They spoke about the competitive nature of the business environment and pointed out the importance of accountancy for business and the economy. They stressed the importance of communicating effectively with other managers and employees. Furthermore, they highlighted the need for continuous professional development, with participation in seminars, workshops and other professional activities.

At the last part of the event, the speakers responded to questions from the audience. The questions focussed on the nature of an accounting job, the difficulties of

an accounting job, employment opportunities, hours of daily work and responsibilities, salaries and the differences between professional careers in accounting, finance and management. A noticeable number of these questions were focussed on the academic degree that is needed to pursue a career in the AP and the difficulty of passing the professional accounting exam (needed to qualify as professional accountant), the opportunities for promotion of management graduates to higher levels of the AP and the likelihood of reaching top positions in a firm in comparison to other professions represented within a large company.

Very little discussion took place about the ethics and social responsibility of the contemporary accountant, and students did not ask any questions about the contribution of an accountant in the welfare of the society or about any issue related to the social nature of an accounting job.

A large number of students participated in both events. The event at the ATEI of Athens attracted approximately 300 students from different semesters, a considerably larger number than the number of students who attended the classes of the FAC each week. At the ATEI of Piraeus, 160 students attended the presentation; again many more than attend the usual weekly lecture.

5.6.2.3 Step 3: Post-test – data collection and procedures

The questionnaire (with some additional questions) was administered a second time during the week preceding test week (8-15 January 2006). It was timed to be as close as possible to the end of the course, without test week conflicts interfering with the administration of the instrument and temporary test week stress influencing the measures.

The study used the same format of questionnaire at the beginning and at the end of the FAC. The only difference was a new section in the second questionnaire seeking information on variables confounding the students' perception of their FAC as well as their perception of their accounting educator.

5.7 Statistical tests

As a hypotheses testing study, several quantitative analysis techniques were employed for the stages two and three of the research, which ranged from simple descriptive statistics to more complex techniques such as factor analysis, multiple regression analysis, multivariate analysis of variance (MANOVA), analysis of variance (ANOVA)

and t-tests. Analyses were carried out using the statistical package for the social sciences (SPSS), which is configurable for the Windows operating system (Norusis, 2000).

5.7.1 Descriptive statistics

Descriptive statistics is the branch of statistics which deals with ways of organizing and summarizing possibly large collections of experimental measurements in order to obtain one or more meaningful values that summarize the major characteristics of the data (Nachmias and Nachmias, 2000). Summary properties, such as averages and percentages, were used in this study for the purpose of reporting the characteristics of the respondents and simultaneously providing adequate statistical support for the findings. Figures were used to demonstrate the findings, as well as numerical summaries of specific aspects of the data for more complete descriptions.

5.7.2 Coefficient alpha

Coefficient alpha is recommended as the first test of internal consistency in assessing the reliability of a multiple-item variable (Nunnally, 1978). It assesses the homogeneity of a group of items used to define a variable. Coefficient alpha can be viewed as the average of the correlations of all the items in a test with each other (Norusis, 2000). If the coefficient alpha is low and the pool of items is sufficiently large, this indicates that some items do not share equally in the common core and should be eliminated. The easiest method of finding and eliminating these items is to calculate the correlation of each item with the total score and to plot these correlations by decreasing orders of magnitude. Items with correlations near zero should be eliminated. Items that produce a sudden drop in the item-to-total correlations should also be dropped.

5.7.3 Factor analysis

Factor analysis is helpful for studying the correlations among a large number of interrelated quantitative variables and combining them into a few more meaningful factors. Those few factors then become input variables and so become interpretable (Kline, 2000). The main aim for undertaking factor analysis is to replace the set of observed variables with a smaller set of derived variables and provide operational definitions for the underlying process by investigating the variables that the factors comprise (Tabachnick and Fidell, 1996). This technique is normally used as a preliminary procedure for multivariate data analysis such as multiple regression and MANOVA. Factor analysis can also contribute to minimization of multicollinearity

which happens on account of strong relationships between variables within independent or dependent variable groups (Hair et al., 1998). In this study, items relating to normative beliefs, motivation to comply with significant others, work values and beliefs concerning the characteristics of the AP, self efficacies, importance of relevant self efficacies and intention for the development of the relevant scales were tested by factor analysis.

There are two types of factor analysis – exploratory and confirmatory factor analysis (Pallant, 2001). As the purpose of the factor analysis in this study is to identify any inter-relationships among a set of variables as a preliminary procedure for multivariate data analysis, exploratory factor analysis was adopted. The factor extraction method used throughout this research is principal component analysis. The factor extraction technique of principal component analysis estimates communalities in order to eliminate error and any unique variances from factors (Tabachnick and Fidell, 1996). Although determining the number of factors which best represent the underlying relationships among the variables is generally believed to be up to the adopted theoretical framework and to the researcher, there are commonly used techniques such as latent root criterion, percentage of variance (scree test) and heterogeneity of the respondents (Hair et al., 1998). In the present study, latent root criterion (eigenvalues) and scree test were used. Using an eigenvalue for establishing a cut-off is most reliable when the number of variables is between 20 and 50 – in this study there are 19 variables indicating work values and 47 variables indicating attitudes towards the AP (Hair et al., 1998).

Factor loading refers to the correlation between each factor retained and each of the original variables. The factor loading will be high if a variable is closely related to a factor. With regard to determining the significance of factor loading, this research employed guidelines for identifying significant factor loadings based on sample size suggested by Hair et al. (1998), shown in Table 5.6.

Table 5.4: Guidelines for identifying significant factor loadings based on sample size.

Factor loading	Sample size needed for significance
.30	350
.35	250
.40	200
.45	150
.50	120
.55	100
.60	85
.65	70
.70	60
.75	50

Source: Hair et al. (1998)

Considering the sample size of this study, 586 and 485 for testing the theoretical model of an ACC at the beginning and the end of the FAC respectively, and 215 students for investigating the effect of FAC on the constructs of an ACC, 0.40 was set as an acceptable factor loading and cut-off value for this study.

5.7.4 Testing hypotheses by linear multiple regression analysis

Multiple regression analysis aims to explain the variation of one dependent variable by estimating the influence of several independent variables on the dependent variable (Hair et al., 1998). Although similar to correlation, multiple regression shows the degree to which one or more independent variables can explain and predict the dependent variable (Field, 2000). Pallant (2001) has suggested that multiple regression is ideal for the investigation of complex real-life research questions; however, she has supported the view that the research must have a sound theoretical framework for the analysis and, in particular, the order of variables entering the equation, as is the case in this study.

In the present research multiple regression was employed to identify the statistical relationship between students' intention to pursue an accounting career and the three constructs subjective norms, attitudes towards pursuing the AP and perceived control over the choice of a career in the AP. Subjective norms, attitudes and perceived control were treated as predictor (independent) variables and intention was treated as criterion (dependent) variable.

The main objective of multiple regression analysis can be summarized as identifying the smallest number of uncorrelated and linearly related independent variables that will explain the largest proportion of variation in the dependent variable; the measure of this variation explained is the multiple Pearson coefficient of determination, or simply R squared in SPSS outputs. The R square (R^2) statistic is the

square of a measured correlation between the observed and the predicted value and indicates the proportion of the variance in the criterion variable which is accounted for by the model. Therefore, the larger the R square, the more the dependent variable is associated with the independent variables. However, although the R square provides an indication of the explanatory power of the model, it does not indicate the level of significance. The F-ratio provides a measure of this significance. The F-ratio is a test of the null hypothesis that there is no linear relationship between the dependent and independent variables, that is, R square equals zero. When the F-ratio is high and the level of significance is close to zero, then the null hypothesis can be rejected, and the alternative hypothesis accepted that there is a linear relationship between dependent and independent variables (Norusis and Inc, 2000). The p-value needs to be less than 0.05 for the F-ratio to be regarded as significant (Pallant, 2001).

5.7.5 Testing hypotheses by multivariate analysis of variance

MANOVA is particularly useful when used in conjunction with experimental designs (as the design of this research), specifically in research designs in which the researcher directly controls or manipulates one or more independent variables to determine the effect on one or more (MANOVA) dependent variables (Hair et al., 1998). MANOVA test examines the relationship between several categorical independent variables (different types of FAC) and two or more metric dependent variables (constructs of ACC). In other words, the values of diverse dependent variables are considered at the same time to compare different groups. In this study, MANOVA was used to identify overall differences between the two types of accounting courses in terms of the model of an ACC. The unique aspect of MANOVA is that variate (a linear combination of variables) optimally combines the multiple dependent measures into a single value that maximizes the differences across groups.

There are three conditions to be met for the MANOVA to be valid: the observations must be independent, the variance-covariance matrices must be equal for all treatment groups, and the set of p-dependent variables must follow a multivariate normal distribution (Hair et al., 1998).

In order to estimate the significance of group differences, four criteria for significance testing (Pillai's Trace, Wilks' Lamda, Hotelling's and Roy's Largest) were employed to increase the validity of the results (Stevens, 1996).

With regard to interpretation of the MANOVA results, a post hoc test was used to assess which of the dependent variables contributed to the overall differences indicated

by statistics. This test is essential because there may be a subset of variables in the set of variables that accentuate the differences, whereas another subset of variables may be non-significant or may mask the significant effects of the remainder (Pallant, 2001).

5.7.6 Testing the hypotheses by T-test and analysis of variance (ANOVA)

T-test and ANOVA are used to compare two and more than two different groups respectively and conditions. In the present study, independent and paired T-tests were employed to identify differences between two groups of students – taking the traditional versus the innovative course respectively – in terms of the constructs of the ACC. ANOVA was employed to identify differences among the three groups of students whose grouping was based on their intentions (positive, neutral, negative) with regard to their subjective norms, attitudes and perceived control.

To interpret the result of the T-test or ANOVA, the meaning of the F-ratio and P-value needs to be delineated. The F-ratio is the ratio of between groups' estimate of variance (the differences between groups) and within groups' estimate of variance (general variability of respondents within the groups). This ratio is a measure of how much variance is attributable to the different treatments (e.g., traditional and innovative, different intention groups) versus the variance expected from random sampling. Because differences tend to inflate the between groups' estimate of variance, large values of the F statistic lead to rejection of the null hypothesis of no difference in means across groups. The p-value in ANOVA represents the probability of getting the F-ratio by chance alone. The p-value needs to be less than 0.05 for the F-ratio to be regarded as significant (Field, 2000).

5.8 Measurement issues of research variables

In the development of a new scale another important issue in quantitative research is the quality of measurement. Reliability and validity are central issues in all scientific measurement. Both concern how concrete measures or scales are developed for constructs (Neuman, 1994). Whereas reliability means getting consistent results from the same measures, validity refers to getting results that accurately reflect the concept being measured (Babbie, 2004).

5.8.1 Reliability

Reliability deals with a scale's dependability. If one has a reliable scale or measure, it produces the same results each time the same thing is measured (Neuman, 1994). Reliability is a matter of whether a particular technique applied repeatedly to the same object yields the same result each time (Babbie, 2004). This notion is often taken to entail two separate aspects: external (stability) and internal reliability. External reliability is the more common of the two meanings and refers to the degree of consistency of a measure over time. Internal reliability is particularly important in connection with multiple-item scales. It raises the question of whether each scale is measuring a single idea and hence whether the items that makes up the scale are internally consistent (Bryman and Cramer, 2001). Researchers can improve the reliability of measures through the test-retest method (external reliability) and with split-half method and Cronbach's alpha coefficient (internal reliability). In the present study, Cronbach alpha was computed for each set of items measuring a specific scale. A value of more than 0.7 is deemed to provide satisfactory reliability (Nunnally, 1978). Furthermore, the test-retest method was applied using the data from non-business students to test the external reliability of the measures.

5.8.2 Validity

Validity is the ability of an instrument to measure what it set out to measure. Validity refers to the extent to which an empirical measure adequately reflects the real meaning of the concept under consideration (Babbie, 2004). The question of validity draws attention to how far a measure really measures the concept that it purports to measure (Bryman and Cramer, 2001). There are several types of validity: face, content, convergent and discriminant validity (Premkumar et al., 1997).

Face validity refers to how well the instrument looks; it ties in with an operational definition of the concept. A cursory review of items could be done by untrained judges – other students, friends, family. Face validity is concerned with the least scientific appraisal of validity and some researchers do not see it as validity at all.

Content validity refers to how much a measure covers of the range of meaning included within a concept (Churchill, 1979; Babbie, 2004). It is concerned with item generation and it is the first step for developing a new measure (Schriensheim et al., 1993). The key to content validity rests in the procedures that are used to develop the measurement instrument for a construct and on whether the instrument covers all the

dimensions of a concept. This study started by defining the domain of the concepts under investigation. Examination of the literature was the first important step in defining the concepts. Content validity of the new measures was assured by systematically selecting items which contained a representative sample of the domain which the scale is intended to measure (Hinkin, 1995).

Construct validity, which lies at the very heart of the scientific process, is most directly related to the question of what the instrument is in fact measuring – what construct, trait or concept, a person's performance (Churchill, 1979). Pedhazur and Schmekin (1991) specify two empirical approaches for determining construct validity: first, internal structure analysis to examine the relationship between scales and items within the instrument; and second, cross-structural analysis to examine the relationship between scales of the instrument and other measures of similar constructs (scale evaluation). Construct validity is based on the logical relationships between variables in the instrument and on the degree to which a measure relates to other variables as expected within a system of theoretical relationships (Babbie, 2004).

Factor analysis and construct validity of a scale have long been associated with each other (Thompson and Daniel, 1996). Factor analysis is the most commonly used analytic technique for data reduction and refining scales (Ford et al., 1986). Principal component factor analysis was used in this study to test the construct validity properties of the developed scales.

5.9 Summary

The main objectives of this research are to develop an integrated theoretical model for the constructs of ACC, identify cause and effects relationships between them and investigate the influence of two types of FAC on the models' constructs. The present study is epistemologically situated in the positivist paradigm, which provided a sound basis for both testing theory and investigating the effect of independent variables on dependent ones. The justification for taking this particular methodological approach to the present research has been discussed. The whole research process and the specific strategies adopted in order to achieve the research objectives have been presented. The data collection in the study used questionnaire surveys that were developed specifically for the present investigation. Since the nature of this study is one of building an integrated model of an ACC and investigate the effects of accounting courses on it,

factor analysis, multiple regression analysis, MANOVA, ANOVA and T-tests have been considered and deemed to be particularly appropriate.

Equipped with the structured research design developed in this chapter and the raised awareness of such issues, such as reliability and validity of the study and of the used instruments and the proper statistical analysis, the study is ready to proceed to the statistical analysis. The following chapter presents the preparation of data for the main analysis.

Chapter 6.

PREPARATION OF RESEARCH DATA

6.1 Introduction

As outlined in Chapter 5, a survey questionnaire with closed questions was distributed to 699 and 571 Greek business and engineering students at the beginning and at the end of the FAC respectively. The main purpose of this chapter is to prepare and analyse the data collected via questionnaires in order to compute the final measures of the study and to proceed with the main analysis and the testing of the hypotheses in the next chapters.

The chapter is divided into seven principal sections. After the introduction in Section 6.1, the next Section 6.2 presents the model of quantitative data analysis and procedures. Section 6.3 illustrates the preparation of data and the creation of appropriate data bases for statistical analyses. In the next Section 6.4, the testing of the reliability of the research scales used at the beginning and end of the FAC respectively is presented, with Cronbach's alpha used as indicator of reliability. The coefficient alpha (also known as Cronbach's alpha and Cronbach's alpha coefficient) is recommended as the first test of internal consistency in assessing the reliability of a multiple-item variable (Nunnally, 1978). Furthermore, test-retest analysis was computed using the data from non-business students to test the external consistency of the new scales. Section 6.5 describes the testing of the validity of the new scales, using exploratory factor analysis (EFA). It helps to reduce the large set of items in the scales and to identify the underlying dimensions and sub-dimensions of the scales. Ensuring reliability and validity is a prerequisite for research data in order to circumvent possible shortcomings and pitfalls in any research outcomes (Pallant, 2001). Section 6.6 presents the final items that will be included in the measurement of dependent, independent and confounding variables and the computation of final measures of the study, based on the results of reliability and validity tests. Section 6.7 provides a summary of the chapter.

6.2 Quantitative analysis procedures and techniques

The analysis procedures and techniques the researcher used in the present study to identify and evaluate the constructs involving and affecting an ACC, and to investigate the effect of a FAC on the identified constructs were based on a quantitative approach.

The following Figure 6.1 presents the quantitative procedures and techniques which the researcher has used in the present work. Details concerning procedures have already been discussed in Chapter 5.

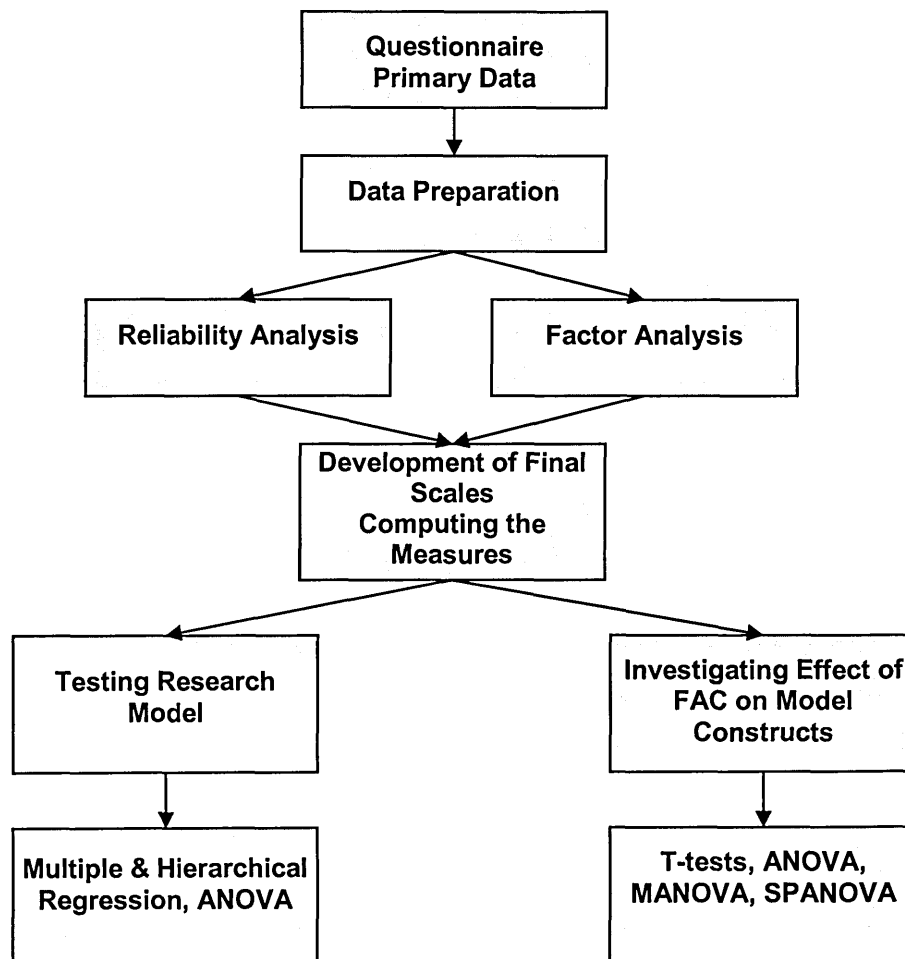


Figure 6.1: Model of quantitative data analysis procedures

6.3 Screening data prior to analysis

Data preparation and creation of appropriate databases is an important part of any research survey as it tremendously influences the quality of the results produced (Bryman and Cramer, 2001). In this study the steps described in the next four sections were undertaken for screening of the data before carrying out the statistical analysis.

6.3.1 Questionnaire editing

According to Pallant (2001), editing entails a thorough and critical examination of a completed instrument for its compliance with the criteria for collecting meaningful data and in order to deal with questionnaires not fully completed. Therefore, a very

important activity to ensure the quality of the collected data is its editing (Bryman and Cramer, 2001). All questionnaires at the beginning of the FAC and also at the end of the FAC, once received, were edited and checked for completeness and accuracy. The following checks for verification were employed: First, all questionnaires were visually scanned for obvious response bias (such as answering all questions with As). Second, questionnaires were checked for completeness. The decision was made that all questionnaires with many missing values concerning important items were to be omitted. If a questionnaire has many responses missing, it is best to omit this individual from the sample since there may be problems or that it could be that the student was not paying attention when completing the questionnaire. After questionnaires with missing and incomplete data had been discarded, a total of 1150 questionnaires were obtained: 628 usable questionnaires at the beginning of the FAC (586 business students and 42 non-business students) and 522 at the end of the FAC (485 business students and 37 non-business students). All questionnaires were classified and each had an identification number assigned (such as 1 Athens, 2 Athens, 3 Athens and 1 Piraeus, 2 Piraeus etc).

6.3.2 Creating appropriate databases

After the beginning and the end of the FAC, the data collected via the questionnaires were recorded in a database. This database was named the “United Full Database” because its data came from all students who had completed usable questionnaires. The number of cases in this database was 1150, which is equal to the total number of respondents at the beginning and at the end of the FAC. However, there was a need in this research to study the effect of the FAC on the constructs of the ACC, and it was necessary to create a new database that contained only those students who completed both the first and second questionnaires. This database was named the “Matched Full Database”. The number of cases in this database was 250, corresponding to the number of participating students. Both databases have identical variables and their coding frame was consistent with the data frame of the questionnaires.

6.3.3 Coding and data entry

Coding refers to the process whereby codes are assigned to the answers of respondents (Bryman and Cramer, 2001). Coding and data entry is one of the steps of the surveying process, where a fast development of methods can be observed (Noroussis, 2000). Today, the most frequently used method of coding and data entry is based on interactive computer programs. This study’s instrument consisted of recoded questions. A coding

frame was drawn up according to which every answer was coded to simplify the data capture. The questionnaire variables were abbreviated and each item assigned a code name that referred to its name, e.g., the code “wveconomic rewards” stands for using information for work value concerning economic returns, and “abeconomic rewards” stands for using information for beliefs concerning economic returns associated with the AP. Furthermore, responses to questions asking after the degree of importance of some point, or to agreement questions were coded using a 5-point Likert scale.

Based on the coding frame, the data obtained at the beginning and at the end of the FAC were transferred to a computer file called “United full data base, in SPSS 13 (Statistical Package for the Social Sciences). The accuracy of data entry was checked by examining the frequency of cut-of-range coded responses on all the instrument’s questions and by comparing the coded responses of thirty randomly selected surveys against the original responses. This revealed a very low error frequency ranging from 0-0.01%.

6.3.4 Reversal items and missing data

Once the data has been entered it is always necessary to transform the raw data into variables that are usable in the analysis. Therefore, as the questionnaire consisted of positive and negative items, in order scores for all questions on the scales to point in the same direction, the ratings for all negative items were reversed.

Another important issue in the preparation of data is how to handle “missing data”. Missing data arise when participants “fail to reply to a question – either by accident or because they do not want to answer the question” (Bryman and Cramer, 2005, p.220). A number of respondents were excluded from the sample used in testing a specific hypothesis on a case by case basis. Specifically students who did not supply answers about the main constructs of the ACC were excluded from samples which were used for testing the model of ACC.

6.4 Reliability assessment

In order for scientific inferences to be valid, it is important first to determine the reliability of the scales used in the research. Neuman (1994) has argued that a reliable scale or measure gives the same results each time the same thing is measured. In other words, reliability is a matter of whether a particular technique applied repeatedly to the same object yields the same result each time (Babbie, 2004). There are two basic ways

for assessing the reliability of a scale: the internal consistency and test-retest assessment. Both these methods attempt to determine the proportion of variance in a measurement scale that is systematic (Peter, 1979). Researchers can improve the reliability of measures through Cronbach's alpha (internal reliability) and the test-retest method (external reliability).

6.4.1 Internal reliability analysis

Internal reliability can be thought of as a measure to the extent that different parts of the scale are measuring the same thing and are particularly important in connection with multiple-item scales (Bryman and Cramer, 2001). Bryman and Cramer added that this test addresses the question of whether each scale is measuring a single idea and whether the items that make up the scale are internally consistent. One of the currently widely used methods to measure internal reliability is Cronbach alpha (Field, 2000; Bryman and Cramer, 2001). Cronbach's alpha is a reliability coefficient that reflects how well the items in a scale are positively correlated to one another. Cronbach's alpha is computed in terms of the average inter-correlation among the items measuring the concept (Gill and Johnson, 2002). This recommended measure of internal consistency, the coefficient alpha, results directly from the assumptions of the domain sampling model. The domain sampling model holds that the purpose of any particular measurement is to estimate the score that would be obtained if all the items in the domain were used (Nunnally, 1967). Cronbach's alpha is pregnant with meaning because the square root of the coefficient alpha is the estimated correlation of the k-item test with errorless true scores (Nunnally, 1967). Cronbach's coefficient alpha is a reasonable indicator of the internal consistency of instruments that do not have right-wrong (binary) marking schemes, thus they can be used for both essay questions as well as questionnaires using scales such as ratings or Likert point scales (Oppenheim, 1992). It is considered to be the average of all possible split-half coefficients and therefore may provide a lower value than that for a specific split-half correlation coefficient based upon matched pairs of items (Traub, 1994). Coefficient alpha takes into account both the number of questions and the average correlation among questions in a set (Nunnally and Bernstein, 1994). It offers a useful and usable approach to assessing the reliability of measurement scales; alpha can be fruitfully employed for scales containing a minimum of three items. Nunnally and Bernstein (1994) stated that the criteria for modification or elimination of items from the scales or sub-scales were based upon statistical criteria. Statistical criteria included the use of corrected item-total correlations and Cronbach's coefficient

alpha. When a concept and its associated measure are deemed to comprise underlying dimensions, it is normal to calculate reliability estimates for each of the constituent dimensions rather than for the measure as a whole (Bryman and Cramer, 2001). If the construct has more than one identifiable dimension or component, coefficient alpha would be calculated for each dimension. The item-to-total correlation used to delete items would also be based on the items in the component and the total score for that dimension. The total score for the construct would be secured by summing the total scores for the separate dimensions (Churchill, 1979). In the present study the corrected item-total correlation was employed. In other words, this research examined the correlations of each item's score with the total scale score in order to investigate whether the items measured the same construct. This method usually subtracts each item score from the total score to eliminate a false part-whole correlation. Each item's score is then compared with the corrected total score. Although there is no universally agreed cut-off point, the most widely adopted threshold is 0.3 (Nunnally and Bernstein, 1994). Moreover, if an item has a negative "corrected item-total correlation coefficient", the item is eliminated from further consideration. Cronbach alpha was also employed and this provides a measure of internal consistency which reflects how well each of the items correlates with the entire scale or sub-scale. Ideally, the Cronbach alpha coefficient of a scale should be above 0.7 (Hair et al., 1995; Pallant, 2001). Cronbach alpha values are, however, quite sensitive to the number of items in the scale (Pallant, 2001). With short scales (e.g., scales with less than ten items) it is common to find quite low Cronbach values (e.g., 0.5). In this case it may be more appropriate to report the mean inter-item correlation for the items. In order to test internal consistency and homogeneity, an inter-item reliability test (coefficient alpha) was conducted against the scales of the study at the beginning and end of the FAC.

6.4.1.1 Internal reliability analysis – Scales of the constructs of an ACC

The reliability analysis for the constructs of ACC was based on the 586 questionnaires that were collected at the beginning of the FAC. The seven scales for the variables of the study – normative beliefs, motivation to comply, work values, beliefs concerning the attributes and outcomes associated with the AP, self-efficacy beliefs concerning the pursuit of a career in the AP, importance of possessing relevant vocational self-efficacies and intention to pursue an accounting career – were evaluated using inter-item correlation and coefficient alpha. All the items used in the scales were measured on a 5-point Likert scale, where 1 represented "strongly disagreed" and 5 "strongly agreed".

The analysis was done on each variable, as can be seen from Tables 6.2 to 6.8; all of the scales had very high alpha scores, ranging from 0.643 to 0.943, and were above the generally accepted lower limit of 0.6 (Pallant, 2001). Furthermore, item-total correlation values for most of the items were greater than 0.3, a very satisfactory outcome, as recommended by Briggs and Cheek (1986) and Nunnally and Bernstein (1994). Statistics books (see as an example Sekaran, 2000, p. 287) advise that the closer coefficient alpha is to 1, the higher the internal consistency reliability. Items which had low inter-correlation in each group were deleted to reach a value of alpha as close to 1 as possible. Therefore, the items wv6, ab21, pc4 and pc8 with “item total correlation” less than 0.3 were excluded from further statistical analysis. From the findings below, it can be concluded that the constructs are deemed to have adequate reliability for the next stage of the validity analysis. Tables 6.1 to 6.7 show the results of the reliability tests for the scales of normative beliefs, motivation to comply, work values, beliefs concerning the attributes and outcomes associated with the AP, self-efficacy beliefs concerning the pursuit of a career in the AP, importance of possessing self-efficacies and intention to pursue an accounting career. The numbers for the variables in the next tables correspond to numbers on the scales of the study (Appendix 6.1).

Table 6.1: Alpha coefficient and item-total correlation for normative beliefs scale

Items	Item total correlation	Cronbach's alpha
Normative beliefs scale		0.799
SN1 My family would like me to become an accountant.	0.598	
SN2 My friends and peers believe that the accounting profession is a very good career choice.	0.656	
SN3 Greek society considers the accounting profession one of the best career choices.	0.694	
SN4 My teachers have encouraged me to pursue the accounting profession.	0.513	

Table 6.2: Alpha coefficient and item-total correlation for motivation to comply scale

Items	Item total correlation	Cronbach's alpha
Motivation to comply scale		0.727
SN5 The opinion of my family is important for my career choice.	0.518	
SN6 The opinions of my friends and peers are important for my career choice.	0.569	
SN7 The opinion of society is important for my career choice.	0.548	
SN8 The opinions of my teachers are important for my career choice.	0.452	

Table 6.3: Alpha coefficient and item-total correlation for work values scale

Items	Item total correlation	Cronbach's alpha
Work values scale		0.798
Extrinsic work values		
WV1 A job that offers a secure and stable future.	0.387	
WV2 A job that offers good economic rewards and a rewarding life style.	0.402	
WV3 A job with convenient working hours and good working conditions.	0.311	
Prestige work values		
WV4 A job where the chances for advancement and promotion are good.	0.346	
WV5 A job where you get a chance to participate in decision making.	0.472	
WV6 A job where you can use your personal authority.	0.271	
WV7 A job that has high status and prestige.	0.454	
Intrinsic work values		
WV8 A job which is interesting.	0.303	
WV9 A job which challenges you intellectually.	0.391	
WV10 A job where most problems are new and let you be creative.	0.514	
WV11 A job where you can achieve your tasks.	0.472	
WV12 A job with independence and autonomy.	0.304	
WV13 A job which is relevant to your studies.	0.358	
WV14 A job that offers you the chance to experience personal growth, acquire new skills and develop competency in new areas.	0.485	
Social work values		
WV15 A job where you work with others.	0.361	
WV16 A job which is worthwhile to society.	0.499	

Table 6.4: Alpha coefficient and item-total correlation for beliefs scale (Perception)

Items	Item total correlation	Cronbach's alpha
Accounting beliefs scale		0.937
1. Extrinsic beliefs		0.756
Security		
AB1 I will easily find a job as an accountant.	0.303	
AB2 I will have a secure and stable professional future.	0.447	
Economic rewards		
AB3 I will have the chance of having a good salary.	0.506	
AB4 I will have a high standard of living.	0.533	
Work conditions		
AB5 I will enjoy good working conditions.	0.486	
AB6 I will have convenient hours of work.	0.358	

2. Prestige beliefs		0.862
Advancement and promotion		
AB7	I will get ahead quickly in my career.	0.512
AB8	I will have the chance of having my own business some day.	0.399
AB9	I can be promoted to senior level positions in a company/organization.	0.560
Management/Decision making		
AB10	I will have the opportunity to participate in business decision making.	0.577
AB11	A few years later I will able to work as consultant and business advisor	0.514
Personal Authority		
AB12	I will have personal authority in my workplace.	0.498
AB13	I will give financial advices to the owner of a business and others managers.	0.506
Status		
AB14	I will enjoy high social status and prestige.	0.617
AB15	I will have a well respected occupation.	0.658
AB16	I will enjoy the same social recognition with lawyers, doctors and engineers	0.597
3. Intrinsic beliefs		0.882
Interesting job		
AB17	I will have an interesting job.	0.617
AB18	I will have a profession that I enjoy and which satisfies me professionally.	0.623
AB21	My job will be monotonous, repetitive and tedious.	0.231
Intellectual stimulation		
AB19	I will have to use my mind in order to respond to my profession.	0.363
AB20	My job will involve conceptual skills and judgement.	0.462
Creative job		
AB22	My job will be creative and dynamic.	0.472
AB23	I will have to combine different streams of knowledge in order to do my job.	0.477
Achievement		
AB24	I will achieve something important for my company.	0.568
AB25	The results of my job will be useful in all departments of the enterprise.	0.540
Stress/Independent job		
AB26	In general I will have autonomy in the way I handle my work.	0.558
AB27	I will work slowly and at my own pace.	0.511
AB28	I will be working with pressure.	0.477
Job relevant with management studies		
AB29	I will fully use my management knowledge and abilities in the accounting profession.	0.535
AB30	The accounting profession matches to what I am studying.	0.530
Personal growth		
AB31	I will have the opportunity to attend a lot of seminars for personal growth.	0.464
AB32	Each day there is always something new to learn in my accounting job.	0.556

AB33	My accounting knowledge and skills never go out of date.	0.537	
4. Social beliefs			0.833
Work with others			
AB34	I will interact and cooperate with many people.	0.560	
AB35	I will meet with many different people in their job.	0.553	
AB36	I will work with people more often than I work alone.	0.481	
Contribution to society			
AB37	I will be able to contribute to the welfare of society.	0.511	
AB38	I will make a great social contribution.	0.533	
AB39	I will have the social responsibility to provide the right financial information and advice.	0.471	

Table 6.5: Alpha coefficient and item-total correlation for the accounting self efficacy beliefs scale

Items		Item total correlation	Cronbach's alpha
Accounting self efficacy beliefs scale			0.766
PC1	I think that I have the abilities and skills to be an accountant.	0.681	
PC2	I believe that I will have a degree that is relevant to the accounting profession.	0.690	
PC3	I think I can successfully take the accounting professional exams.	0.652	
PC4	I believe that I will easily find a job as accountant in the future.	0.288	

Table 6.6: Alpha coefficient and item-total correlation for the Scale of importance of possessing relevant vocational self-efficacies

Items		Item total correlation	Cronbach's alpha
Scale of importance of possessing the specific self-efficacies			0.643
PC5	Ability and skills to pursue an occupation.	0.351	
PC6	Relevant degrees to pursue an occupation.	0.533	
PC7	To succeed in professional exams	0.431	
PC8	Find a job easily.	0.167	

Table 6.7: Alpha coefficient and item-total correlation for accounting intention scale

Items		Item total correlation	Cronbach's alpha
Accounting intention scale			0.943
I1	Accounting is a job I might be very interested in having someday.	0.870	
I2	I like the accounting profession and will pursue it in the future.	0.895	
I3	My first choice will be the accounting profession graduation.	0.866	
I4	I will follow the accounting profession if I will find a job as accountant after my graduation.	0.839	
I5	I would enjoy being an accountant	0.763	

After the exclusion of items wv6, ab21, pc4 and pc8 from the scales of work values, beliefs concerning the attributes and outcomes associated with the AP, self-efficacy beliefs concerning the pursuit of an accounting career and the importance of possessing relevant self-efficacies, coefficient alpha for the scales of work values, accounting beliefs, self efficacy beliefs and importance of possessing vocational self efficacies improved to 0.799, 0.937, 0.850 and 0.673 respectively.

6.4.1.2 Internal reliability analysis – Scales of confounding variables

The reliability analysis for the confounding variables of the ACC was based on the 485 questionnaires collected at the end of the FAC. The two new scales impression of accounting educator and perception of FAC were evaluated using inter-item correlation and coefficient alpha. All the items used in the scales were measured on a 5-point Likert scale, where 1 represented “strongly disagreed” and 5 “strongly agreed”. Items which had low inter-correlation in each group were deleted to reach a value of alpha as close to 1 as possible. Therefore, item 6 on the scale of accounting educator and items 2, 5, 8 and 12 on the scale of FAC with item-total correlations of less than 0.3 are excluded from further statistical analysis. From the findings below, it can be concluded that the constructs are deemed to have adequate reliability for the next stage of validity analysis. Tables 6.8 and 6.9 illustrate the result of reliability analysis for the scales of impression of accounting educator and of perception of the FAC respectively.

Table 6.8: Alpha coefficient and item-total correlation for accounting educator scale

Items	Item total correlation	Cronbach's alpha
Accounting educator scale		0.899
AE 1 The AE was the best teacher I had during my studies.	0.614	
AE 2 The AE had the ability to communicate.	0.696	
AE 3 The AE made the lesson pleasant.	0.650	
AE 4 The AE was very friendly to the students.	0.599	
AE 5 The AE knew how to make the FAC interesting.	0.739	
AE 6 The AE was fair to the students.	0.265	
AE 7 The AE made me love accountancy.	0.594	
AE 8 The AE had a positive influence on my view of the AP.	0.457	
AE 9 The AE made every effort to explain accountancy in a simple way.	0.622	
AE 10 The AE was very lively in the presentation of the lesson.	0.591	
AE 11 The AE was very patient and repeatedly explained difficult concepts.	0.675	
AE 12 The AE knew accounting well as a science and as a practice	0.598	
AE 13 The AE was cold and indifferent while teaching.	0.500	
AE 14 The AE was ironic to the students.	0.408	

Table 6.9: Alpha coefficient and item-total correlation for FAC scale

Items	Item total correlation	Cronbach's alpha
FAC scale		0.726
FAC1 The FAC is easy and comprehensive.	0.514	
FAC2 The FAC is just a lot of memorizing of rules.	-0.134	
FAC3 The FAC is very interesting.	0.642	
FAC4 I like the FAC.	0.716	
FAC5 The FAC involved a great deal of work.	0.075	
FAC6 The exercises in the FAC seemed very difficult to me.	0.434	
AC7 The textbook used in the FAC is simple and comprehensive.	0.341	
FAC8 One needs to attend the FAC to be successful in the final exam.	0.119	
FAC9 I had no difficulties in solving the accounting exercises.	0.507	
FAC10 The FAC is boring.	0.509	
FAC11 For me the FAC was the most interesting course compared to the other courses in this semester.	0.539	
FAC12 I believe that the FAC is easy for those students who are good at maths and numerical exercises.	-0.127	
FAC13 I believe that I will succeed in the final exam of the FAC.	0.515	

After the exclusion of item 6 from the scale impression of accounting educator and items 2, 5, 8 and 12 from the scale perception of the FAC, the coefficient alpha of the scales improved to .915 and .842 respectively.

6.4.2 External reliability

External reliability means that a scale yields consistent measurements over time and refers to the degree of stability of a measure. Assuming that the construct of interest does not change, each subject should get about the same score in repeated testing (Spector, 1992). The most common way of testing for the consistency of a measure is the test-retest method (Bryman and Cramer, 2004). This involves administering a test or measure on one occasion and then re-administering it to the same sample on another occasion. Assessing the stability of a measure with a method such as test-retest reliability is appropriate only in those situations where the attribute being measured is not expected to change over time (Stone, 1978). Stability of a scale means that there will be little variation over time in the results obtained over time.

The test-retest data collected from the 42 engineering students at the beginning of the FAC and 37 engineering students at end of the FAC (with 35 matching students), yielded non-statistically significant differences in the results of a paired t-test between the beginning of FAC and the end of the FAC for the scales under investigation.

- **Scale of normative beliefs:** There were no significant differences in scores from the beginning of the FAC [$M=5.17$. $SD=2.98$] to the end of the FAC [$M=5.31$. $SD=3.07$], $t(70)=-220$, $p=0.83$.
- **Scale of motivation to comply:** There were no significant differences in scores from the beginning of the FAC [$M=6.03$. $SD=2.67$] to the end of the FAC [$M=5.12$. $SD=2.61$], $t(70)=-214$, $p=0.79$.
- **Scale of work values:** There were no significant differences in scores from the beginning of the FAC [$M=58.82$. $SD=8.15$] to the end of the FAC [$M=59.41$. $SD=8.25$], $t(70)=-314$, $p=0.76$.
- **Scale of accounting beliefs:** There were no significant differences in scores from the beginning of the FAC [$M=99.41$. $SD=24.48$] to the end of the FAC [$M=99.69$. $SD=25.88$], $t(70)=-0.49$, $p=0.96$.
- **Scale of accounting self-efficacy beliefs:** There were no significant differences in scores from the beginning of the FAC [$M=8.80$. $SD=4.01$] to the end of the FAC [$M=9.05$. $SD=4.23$], $t(70)=-256$, $p=0.80$.
- **Scale of the importance of possessing the self efficacies:** There were no significant differences in scores from the beginning of the FAC [$M=9.17$. $SD=3.91$] to the end of the FAC [$M=9.05$. $SD=4.02$], $t(70)=-247$, $p=0.78$.

- **Scale of accounting intention :** There were no significant differences in scores from the beginning of the FAC [$M=1.30$, $SD=0.49$] to the end of the FAC [$M=1.34$, $SD=0.56$], $t(70)=-349$, $p=0.73$.

6.5 Validity assessment

A Factor Analysis (FA) was undertaken to identify latent dimensions within the items included in the scales of the research instrument. FA is a statistical procedure which enables the underlying dimensions of a questionnaire to be determined (Kline, 2000). Bryman and Cramer (2001) and Sekaran (2000) argued that a FA test can be used to assess the factorial validity of the questions which make up a scale (by telling us the extent to which they will be measuring the same concepts or variables). FA was used for three main purposes: (1) to assess the degree to which items were tapping the same concept; (2) to determine the degree to which they could be reduced to a smaller set; (3) to try to make sense of the complexity of social behaviour by reducing it to a more limited number of factors. In terms of a statistical technique, FA also contributes to the minimization of multicollinearity which can bring about statistical errors due to strong relationships between variables within independent or dependent variable groups (Hair, et al., 1998).

There are two main methods to FA: exploratory and confirmatory. Exploratory factor analysis (EFA) is often used in the early stages of research to gather information about the inter-relationships among a set of variables. In contrast, confirmatory analysis is a more complex set of techniques used later in the research process to confirm specific hypotheses or theories concerning the structure underlying a set of variables (Pallant, 2001). An EFA, based on the principal component analysis (PCA) with Varimax rotation, was conducted using the SPSS package version 13.0 to detect the factor structure in the scales of this study.

FA involves various steps (Pallant, 2001). Firstly, based on the correlation matrix for all related variables, the appropriateness of the factor model is evaluated. Secondly, it is necessary to decide which factor model should be used, the number of factors that should be extracted, and to assess how well the model fits the original data. Thirdly, the choice of the rotation method to make factors more interpretable needs to be made. Finally the computed factor scores can be used in further statistical analyses.

Due to the study design, nine separate factor analyses were undertaken:

1. FA for normative beliefs scale, consisting of four items

2. FA for motivation to comply scale, consisting of four items
3. FA for work values scale, consisting of fifteen items
4. FA for accounting beliefs scale, consisting of thirty-eight items
5. FA for accounting self-efficacy beliefs scale, consisting of three items
6. FA for importance of possessing relevant vocational self-efficacies scale, consisting of three items
7. FA for intention scale, consisting of five items
8. FA for accounting educator scale, consisting of fourteen items
9. FA for FAC scale, consisting of nine items

6.5.1 Assessment of suitability of data for factor analysis (FA)

The first issue to consider in order determining whether a particular set of data is suitable for FA is the sample size of participants. There is disagreement among authors concerning the sample size; however, they agree that the larger the better (Stevens, 1996; Tabachnick and Fidell, 1996). Tabachnick and Fidell (1996) suggest that at least 300 cases are needed for FA. Nunnally (1978) recommends that it is not the overall sample size that is of concern, and suggests that 10 cases are needed for each item to be factor analysed. As the sample size of this study is much bigger (more than 500 students), the data are suitable for FA. In addition, the appropriateness of FA regarding the strength of the inter-correlations among the items was tested using the Kaiser-Meyer-Olkin (KMO) Measure of sampling adequacy and Bartlett's Test of Sphericity (Hair et al., 1998), which is acknowledged as one of the best measures for determining the suitability of a set of data for subsequent FA (Stewart, 1981). According to Pallant (2001), the Bartlett's Test of Sphericity should be significant ($p < 0.05$) and the KMO index ranges from 0 to 1, with .06 suggested as the minimum value for a good FA.

6.5.2 Factor extraction

"Factor extraction involves determining the smallest number of factors that can be used to best represent the inter-relations among the set of variables" (Pallant, 2001, p.153). The most common set of methods used are Principal Components Analysis (PCA) and Factor Analysis (FA). PCA, which was used in testing the construct validity of the scales in the present study, is recommended in cases where exploration of the structure of a set of variables is attempted (e.g., Duntzman, 1994). In PCA, the original variables are transformed into a smaller set of linear combinations, with all of the variance in the variables being used. PCA (Pearson, 1901; Hotelling, 1933) was preferred because,

unlike common factor analysis (or FA), it decomposes the total observed variance in the correlation matrix (e.g., Kim and Mueller, 1978; Duntelman, 1994). Factor analytic methods decompose only part of the observed variance and the final solution may not adequately reproduce the observed correlation matrix. Therefore in FA the fit of the factor solution with the data has to be tested. In PCA, there is no requirement for goodness of fit because the final factor matrix accounts for the total variance of each of the initial variables. Therefore, a factor solution can be rejected as not demonstrating goodness of fit even though this solution is justified on the basis of theory, rationale and other indices (e.g., conformance to the eigenvalues greater than one criterion). Tabachnick and Fidell (1996, pp.662-663) suggest that "If you are interested in a theoretical solution uncontaminated by unique and error variability, FA is your choice. If on the other hand you want an empirical summary of the data set, PCA is the better choice." Therefore, in the present work, as already the underlying dimension and sub-dimensions of the scales have been determined by the theory and the study tries to identify just an empirical summary of the data set, PCA was preferred. Using PCA, it is up to the researcher to determine the number of factors he considers best describe the underlying relationship among the variables. This involves balancing two conflicting needs: the need to find a simple solution with as few factors as possible and the need to explain as much of the variance of the original data set as possible.

In the present research, in order to assist in the decision concerning the number of factors to retain, the Kaiser's Criterion (eigenvalues) was employed. The eigenvalue of a factor represents the amount of the total variance explained by that factor. The Kaiser or eigenvalues greater than one criterion for factor extraction was used (Guttman, 1954). This criterion has been considered satisfactory and more appropriate than other criteria despite the fact that it is mainly based on heuristic and practical grounds (Kaiser, 1974; Kim and Mueller, 1994b).

6.5.3 Factor rotation

Once the number of factors that have an eigenvalue of 1 or more have been determined, PCA procedure with Varimax rotation was used in all cases to provide the "simplest structure" needed for interpretation.

The two most commonly used methods to rotate factors are orthogonal rotation, which produces factors which are unrelated to or independent of one another, and oblique rotation, in which the factors are correlated (Bryman and Cramer, 2005). Authors advise that the choice between orthogonal and oblique rotation should be made

on the basis of the theoretical background and expectations (e.g., Kim and Mueller, 1978, 1994a). The most commonly used orthogonal approach is the Varimax method, which attempts to minimize the number of items that have high loadings on each factor. Varimax rotation fits well with the theoretical and logical assumptions underlying the consideration of the theory of work values in this research. In particular, extrinsic, intrinsic, prestige and social dimensions of work values and their sub-dimensions should be independent in the ACC context.

To determine the minimum loading necessary to include an item in its respective construct, Hair et al. (1998) suggested that variables with loadings of 0.40 or greater are considered practically significant. The following section presents the results of each FA of the study's scales in detail.

6.5.4 Factor analysis – selection of final items

6.5.4.1 Factor analysis 1: Normative beliefs scale

Factor analysis was applied to four questioned normative beliefs. As the first step in FA, the appropriateness of FA for the scale of normative beliefs was tested using the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test of Sphericity. The results (Table 6.10) revealed that KMO was 0.777 and Bartlett's test of Sphericity was significant (chi-square=752.963, $df=6$, $p<0.00$) respectively, which means the appropriateness of FA was confirmed.

Table 6.10: KMO and Bartlett's Test-Normative beliefs scale

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.777
Bartlett's Test of Sphericity	Approx. Chi-Square	752.963
	df	6
	Sig.	.000

According to the results of communalities, there were no normative belief items which had a communality value under 0.4, thus all four items were included in the FA.

Table 6.11: Total Variance Explained-Normative beliefs scale

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.525	63.131	63.131	2.525	63.131	63.131
2	.657	16.425	79.555			
3	.453	11.328	90.883			
4	.365	9.117	100.000			

Extraction Method: PCA

PCA, using the eigenvalues greater than one criterion, produced one factor accounting for 63.13 % of the total variance (Table 6.11). All the items in the scale loaded highly on this factor. Therefore, the scale seems to be a general scale which assesses the amount of normative beliefs concerning the pursuit of an accounting career.

6.5.4.2 Factor analysis 2: Motivation to comply scale

FA was applied to four questioned motivation to comply items. As shown in Table 6.12, the KMO statistic showed 0.733 and Bartlett's test of Sphericity was significant (chi-square=490.405 df=6, $p<0.00$) respectively, indicating a reasonable outcome (Field, 2000).

Table 6.12: KMO and Bartlett's Test of Motivation to comply scale

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.733
Bartlett's Test of Sphericity	Approx. Chi-Square	490.405
	df	6
	Sig.	.000

According to the results of communalities, there were no motivation to comply items which had communality value under 0.4, thus the four items were included in the FA.

Table 6.13: Total Variance Explained-Motivation to comply scale

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.231	55.769	55.769	2.231	55.769	55.769
2	.749	18.736	74.505			
3	.556	13.905	88.409			
4	.464	11.591	100.000			

Extraction Method: PCA

PCA, using the eigenvalues greater than one criterion, produced one factor accounting for 55.77 % of the total variance (Table 6.13). All the items in the scale loaded highly on this factor. Therefore, the scale seems to be a general scale which assesses the amount of motivation to comply with the opinion of significant others.

6.5.4.3 Factor analysis 3: Work values scale

Before proceeding to the FA of the scales of work values and beliefs concerning the attributes and outcomes associated with the AP some issues must be taken into

consideration. The interpretation of factors of work values and belief scales was not free but was based on the theory of work values that has been adopted to conceptualize and operationalize the items on these two scales. A possibly better solution was accepted for the factors underlying both the scales that comprise the theory and the results from statistical analysis.

The appropriateness of FA for the scale of work values was tested using the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test of Sphericity. The results (Table 6.14) revealed that KMO was 0.844 and Bartlett's test of Sphericity was significant (chi-square=1512.570, df=105, $p<0.00$) respectively, which means the appropriateness of FA was confirmed.

Table 6.14: KMO and Bartlett's Test-Work values scale

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.844
Bartlett's Test of Sphericity	Approx. Chi-Square	1512.570
	df	105
	Sig.	.000

According to the results of communalities, there were no work values items which had a communality value under 0.4, thus all 15 items were included in the FA.

In order to decide the number of factors to extract, Kaiser's Criterion was employed. According to the results of the Kaiser's Criterion, four components were revealed to have an eigenvalue greater than 1, explaining 27.70 %, 10.50 %, 8.43 %, and 6.70 % respectively (Table 6.15). Therefore, four can be accepted as an appropriate number of factors for the scale of work values.

Table 6.15: Total Variance Explained-Work values scale

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.155	27.699	27.699	4.155	27.699	27.699
2	1.575	10.502	38.201	1.575	10.502	38.201
3	1.266	8.437	46.638	1.266	8.437	46.638
4	1.002	6.677	53.315	1.002	6.677	53.315
5	.874	5.824	59.139			
6	.851	5.673	64.812			
7	.791	5.276	70.088			
8	.751	5.004	75.092			
9	.661	4.408	79.499			
10	.648	4.318	83.818			
11	.605	4.033	87.851			
12	.484	3.227	91.077			
13	.473	3.150	94.228			
14	.450	2.999	97.226			
15	.416	2.774	100.000			

Extraction Method: PCA

A PCA, followed by Varimax rotation, was conducted to determine the underlying factors and the items loading on them. Table 6.16 shows the factor loadings (correlation) between each work value item and each extracted factor. On this scale, the interpretability of the solution was rendered problematic because of two items which loaded on more than one factor, higher than 0.3. As can be seen in Table 6.16, the items WV9 "...intellectual job" and WV11 "...achievement" were diffused across two factors with a loading of less than 0.5. Due to the problematic nature of these two items, they were removed from further analysis. Another interesting fact is that the work value 12 "autonomy" loads high on the extrinsic dimension of work values and not on the intrinsic dimension. Therefore, in this research, the individual work value autonomy is classified in the extrinsic type of work values.

Table 6.16: Rotated Component Matrix-Work values scale

Questionnaire Items	Dimensions of work value scale			
	Prestige	Intrinsic	Extrinsic	Social
WV 5 Business decision making	.725			
WV 7 Status	.716			
WV 4 Advancement and promotion	.694			
WV 11 Achievement	.211			.327
WV 8 Interesting job		.649		
WV 14 Personal growth		.649		
WV 10 Creative job		.585		
WV 13 Relevant to my studies		.578		
WV 9 Intellectual job		.237		.312
WV 1 Vocational secure and stable future			.778	
WV 3 Work conditions and environment			.518	
WV 2 Economic rewards from the job			.455	
WV 12 Independence and Autonomy		.295	.436	
WV 16 Social responsibility				.694
WV 15 Work with others				.559

Extraction Method: PCA

Rotation Method: Varimax with Kaiser normalization

To conclude, 13 items of work values that represent individual work values (see Section 4.3.3.2; Pryor, 1983; Nevill and Super, 1986; Elizur et al., 1991; Ros et al., 1999) will be used for the computation of attitudes towards pursuing a career in the AP. These 13 work value items have been classified in four broad categories.

The interpretation of factors is as follows:

Factor 1 “Prestige dimension of work values” consists of three items WV4 “advancement and promotion”, WV5 “business decision making” and WV7 “social status”.

Factor 2 “Intrinsic dimension of work values” consists of four items WV8 “interesting job”, WV10 “creative job”, WV13 “relevant to my studies” and WV14 “personal growth”.

Factor 3 “Extrinsic dimension of work values” consists of four items WV1 “secure and stable future”, WV2 “economic rewards”, WV3 “work conditions” and WV12 “autonomy”.

Factor 4 “Social dimension of work values” consists of two items WV15 “work with others” and WV16 “social responsibility”.

Cronbach alpha for the final scale of work values was .741.

6.5.4.4 Factor analysis 4: Accounting beliefs scale

Thirty-nine initial accounting belief items (corresponding to sixteen work values) have been presented to students. Using the data of this research, the item AB 21 was excluded

from further analysis due to a reliability problem. Furthermore, the items AB 12, AB 13, AB 19, AB 20, AB 24 and AB 25 were excluded from FA as the corresponding work value items were excluded from the computation of the measure of attitudes due to reliability or construct validity problems. Thus only 32 accounting belief items were included in the FA.

The FA of accounting belief items was planned first to classify the items in an individual theoretical category (such as economic rewards, interesting job, work with others etc.) (sub-dimensions) and then to classify the identified sub-dimensions in general theoretical categories (such as extrinsic, intrinsic, prestige and social beliefs) (dimensions). Both the KMO analysis (0.917, a very highly significant result) and the Bartlett's test (chi-square=9078 with 703 degrees of freedom, at $p<.000$) indicated that a FA would be appropriate, as shown in Table 6.17.

Table 6.17: KMO and Bartlett's Test-Accounting beliefs scale (sub-dimensions)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.917
Bartlett's Test of Sphericity	Approx. Chi-Square	9078.087
	df	703
	Sig.	.000

According to the results of communalities, there were no accounting belief items which had a communality value under 0.4, thus all 32 items were included in the FA.

In order to decide the number of factors to extract, Kaiser's Criterion was employed. The analysis yielded a solution of nine sub-factors with an eigenvalue greater than 1, which accounted for 64.85% of the total variance (Table 6.18).

Table 6.18: Total Variance Explained-Accounting beliefs scale (sub-dimensions)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	11.930	31.395	31.395	11.930	31.395	31.395
2	2.699	7.103	38.498	2.699	7.103	38.498
3	2.062	5.427	43.925	2.062	5.427	43.925
4	1.712	4.504	48.429	1.712	4.504	48.429
5	1.449	3.813	52.242	1.449	3.813	52.242
6	1.351	3.554	55.796	1.351	3.554	55.796
7	1.199	3.154	58.950	1.199	3.154	58.950
8	1.149	3.025	61.975	1.149	3.025	61.975
9	1.094	2.878	64.853	1.094	2.878	64.853

Extraction Method: PCA

A PCA, followed by a Varimax rotation, was conducted on 32 items to determine the underlying beliefs-related sub-factors and the items loading on them. On this scale, the interpretability of the solution was rendered problematic because of two items which loaded on more than one factor and whose loadings were not particularly high on any of these factors. The items AB 5 and AB 33 were diffused across two unrelated sub-factors with a loading of less than 0.5. It was decided that these items should not be included in any of the sub-factors. In addition, the item AB 28 “Accounting jobs have a lot of stress”, although loading heavily in two factors, was decided to be kept in the analysis, together with AB 6; they represent the sub-dimension work conditions. The rest of the items (29 items) had a clear loading on one of the nine identified factors.

Table 6.19 shows the factor loadings between each belief item and each extracted sub-factor.

Table 6.19: The factor loadings of 30 items of beliefs concerning attributes of the AP (sub-dimensions)

Questionnaire Items	1 Advance Business Position	2 Nature of Accounting Job	3 Security and Economic returns	4 Work With others	5 Social Status	6 Developing Business Skills	7 Contribution to Society	6 Autonomy	9 Work Conditions
AB 9	.790								
AB 11	.753								
AB 10	.720								
AB 8	.672								
AB 7	.597								
AB 17		.759							
AB 18		.759							
AB 22		.560							
AB 23		.517							
AB 2			.821						
AB 1			.802						
AB 3			.740						
AB 4			.568						
AB 35				.808					
AB 34				.774					
AB 36				.760					
AB 14					.732				
AB 15					.677				
AB 16					.648				
AB 31						.614			
AB 29						.613			
AB 30						.594			
AB 32						.525			
AB 38							.786		
AB 39							.732		
AB 37							.729		
AB 27								.812	
AB 26								.678	
AB 6									.757
AB 28								.557	.604

Extraction Method: PCA

Rotation Method: Varimax with Kaiser normalization

It is worth clarifying that according to Table 6.19 and the extracted factors only nine sub-dimensions of accounting beliefs were identified instead of thirteen sub-dimensions of work values. This has happened as some belief items (such as security and economic rewards, interesting accounting job and creative accounting job, advancement/ promotion and decision making, personal growth and job relevant to my studies) from different theoretical types of beliefs (see table 4.1) load together on one factor. There is an explanation for this; according to Kline (2000), factors with few

items are usually “bloated specific”. This may be the case in these factors since most of them have only two items. The empirical distinction between common factor and a bloated specific is that a common factor will correlate with, or discriminate among, external criteria, whereas a bloated specific correlates with nothing (Kline, 2000). However, all the merged items belong to the same broad classification (such as extrinsic, intrinsic, prestige and social dimension).

The interpretation of the nine factors is as follow:

Factor 1 “Advancement in business position” consists of five items, AB9, AB11, AB10, AB8 and AB7, with beliefs concerning advancement and promotion in the AP and business decision making having been merged in this factor.

Factor 2 “Nature of accounting job” consists of four items, AB17, AB18, AB22 and AB23, with beliefs concerning the interesting and creative nature of an accounting job having been merged in this factor.

Factor 3 “Security and economic returns” consists of four items AB2, AB1, AB3 and AB 4, with beliefs concerning security and economic rewards associated with the AP having been merged in this factor.

Factor 4 “Work with others” consists of three items AB35, AB34 and AB36, all of which beliefs are related to the possibility of interacting and cooperating with other people and employees.

Factor 5 “Social status” consists of three items AB14, AB15 and AB16, all of which beliefs are related to the social status of the AP.

Factor 6 “Developing business skills” consists of four items AB31, AB29, AB30 and AB32, with beliefs concerning the personal growth potential of an accountant and the possibility of using management skills and knowledge having been merged in this factor.

Factor 7 “Contribution to society” consists of three items AB38, AB 39 and AB 37, all of which concern beliefs about the social responsibility of accountants and their obligation to make a contribution to society.

Factor 8 “Autonomy” consists of two items AB 27 and AB 26, both of which present beliefs concerning the autonomy of an accountant to do his/her job.

Factor 9 “Work conditions” consists of two items AB 6 and AB 28, both of which present beliefs concerning the hours worked and the pressure associated with the AP.

In order to identify the broad dimensions into which accounting belief items can be classified, the above 30 items of accounting beliefs were classified in 13 sub-dimensions instead of 9 (extracted from the above FA), and were then subjected to a

second FA. Attempts to conduct a FA of the nine sub-dimensions extracted a three-factor solution. Furthermore, in the above FA of work values, 13 work values were used and thus 4 broad categories – extrinsic, intrinsic, prestige and social dimension of work values – extracted.

This was done by calculating the arithmetic mean of each remaining item for each one of the 13 sub-categories (security, economic rewards, work condition, autonomy, nature of accounting, job creativity, personal growth, business skills, advancement/promotion, decision making, social status, work with others and social responsibility (see Table 6.22). The arithmetic mean is the sum of the data values in the batch, divided by the size of the batch (Schwarz and Spilker, 1994).

In order to examine whether the new data set of 13 items was appropriate for a FA, the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test of Sphericity were used (Table 6.20). The results revealed that KMO was 0.883 and Bartlett's test of Sphericity was significant (chi-square=2836.345, df=66, $p<0.00$) respectively, which means the appropriateness of FA was confirmed.

Table 6.20: KMO and Bartlett's Test-Accounting beliefs scale (dimensions)

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.883
Bartlett's Test of Sphericity	Approx. Chi-Square	2836.345
	df	66
	Sig.	.000

According to the results of communalities, there were no belief items which had a communality value under 0.4, thus all 13 items were included in the FA. In order to decide the number of factors to extract, Kaiser's Criterion was employed. The results of the Kaiser's Criterion yielded a solution of four factors with eigenvalues greater than 1.00, which accounted for 50.42 %of the total variance (Table 6.21).

Table 6.21: Total Variance Explained-Accounting beliefs scale (dimensions)

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.729	24.860	24.860	3.729	24.860	24.860
2	1.701	11.341	36.201	1.701	11.341	36.201
3	1.094	7.296	43.497	1.094	7.296	43.497
4	1.038	6.919	50.416	1.038	6.919	50.416
5	.957	6.379	56.795			
6	.862	5.750	62.545			
7	.790	5.263	67.808			
8	.764	5.096	72.904			
9	.722	4.815	77.719			
10	.679	4.524	82.243			
11	.612	4.078	86.321			
12	.590	3.931	90.252			
13	.504	3.362	93.613			
14	.483	3.222	96.835			
15	.475	3.165	100.000			

Extraction Method: PCA

A PCA, followed by a Varimax rotation, was conducted on 13 items to determine the underlying beliefs-related sub-factors and the items loading on them.

Table 6.22: Rotated Component Matrix-Accounting beliefs scale (dimensions)

Questionnaire Items	Dimensions of accounting beliefs scale			
	Intrinsic dimension	Prestige dimension	Extrinsic dimension	Social dimension
Personal growth (2 items)	.723			
Interesting job (2 items)	.647			
Creative job (2 items)	.587			
Relevant to my studies (2 items)	.412			.261
Status (3 items)		.751		
Business decision making (2 items)		.606		
Advancement and promotion (3 items)		.593	.286	
Secure and stable future (2 items)			.832	
Work conditions and environment (1 item)			.740	
Economic rewards and income from the job (2 items)			.594	
Autonomy (3 items)			.421	
Social responsibility (3 items)				.721
Work with others (3 items)				.608

Extraction Method: PCA

Rotation Method: Varimax with Kaiser Normalization

The interpretation of the four factors, as shown in Table 6.22, might be presented as follows:

Factor 1 “Intrinsic dimension of beliefs” concerning the attributes and outcomes associated with the AP consists of the sub-dimensions interesting, creativity, personal growth and relevant with management studies.

Factor 2 “Prestige dimension of beliefs” concerning the attributes and outcomes associated with the AP consists of the sub-dimensions advancement/promotion, business decision making and social status.

Factor 3 “Extrinsic dimension of beliefs” concerning the attributes and outcomes associated with the AP consists of the sub-dimensions vocational secure and stable future, economic rewards, work condition and autonomy.

Factor 4 “Social dimension of beliefs” concerning the attributes and outcomes associated with the AP consists of the sub-dimensions work with others and contribution to society.

Cronbach alpha for the final total scale of accounting beliefs and its dimensions extrinsic, intrinsic, prestige and social were .931, .780, .843, .841, .834 respectively.

The factor analyses for both scales have identified four final factors (dimensions) that will be used in the computation of attitude towards the AP. It can be seen that the interpretations of factors 1, 2, 3 and 4 for the scales of work values and beliefs concerning the attributes and outcomes associated with the AP are identical. All 13 items of the work value scale and the 30 items of the beliefs scale that met the FA criteria were forced to group into their own predetermined dimensions and sub-dimensions, based on the literature review of work values and the results of the PCA. In this study, according to the theoretical framework, it was necessary to have identical dimensions and sub-dimensions for the variables work values and accounting beliefs in order to calculate the final measures of attitude towards pursuing an accounting career and its dimensions and sub dimensions.

In most cases the results were according to the theory of work values; however, in this research there were some interesting differentiations from the theory. The work value “autonomy” was classified into the extrinsic category of work values. The work values “achievement”, “power in the work place” and “intellectual job” were excluded from further analysis. The FA of the accounting beliefs scale classified some of these into combined sub-categories (sub-dimensions) such as advancement and business decision making, personal growth and job relevant to management studies, security and economic rewards, interesting job and creative job. Therefore, only 9 sub-dimensions for the scale of beliefs (30 items) were identified.

6.5.4.5 Factor analysis 5: Accounting self-efficacy beliefs scale

Factor analysis was applied to three questioned “accounting self-efficacy beliefs”. As the first step in the FA, appropriateness of the FA for the scale of self-efficacy beliefs was tested using the Kaiser-Meyer-Olkin (KMO) measure and Bartlett’s test of Sphericity. The results (Table 6.23) revealed that KMO was 0.632 and Bartlett’s test of Sphericity was significant (chi-square=292.466, df=3, $p<0.000$) respectively, which means appropriateness of the FA was confirmed.

Table 6.23: KMO and Bartlett’s Test-Accounting self-efficacy beliefs

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.632
Bartlett’s Test of Sphericity	Approx. Chi-Square	292.466
	df	3
	Sig.	.000

According to the results of communalities, there were no self-efficacy belief items which had a communality value under 0.4, thus all three items were included in the FA.

Table 6.24: Total Variance Explained-Accounting self-efficacy beliefs

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1.826	60.872	60.872	1.826	60.872	60.872
2	.700	23.342	84.214			
3	.474	15.786	100.000			

Extraction Method: PCA

PCA, using the eigenvalues greater than one criterion, produced one factor accounting for 60.87 % of the total variance. All the items in the scale loaded highly on this factor. Therefore, the scale seems to be a general scale which assesses amount of strength of accounting self-efficacy beliefs.

6.5.4.6 Factor analysis 6: Importance of possessing relevant self-efficacies scale

Factor analysis was applied to thee questioned items of “importance of possessing relevant self-efficacies”. The appropriateness of FA for the scale of importance to possess the specific self-efficacies was tested using the Kaiser-Meyer-Olkin (KMO) measure and Bartlett’s test of Sphericity. The results (Table 6.25) revealed that KMO was 0.711 and Bartlett’s test of Sphericity was significant (chi-square=791.2246, df=3, $p<0.000$) respectively, which means the appropriateness of FA was confirmed.

Table 6.25: KMO and Bartlett's Test-Importance of possessing the self efficacies scale

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.711
Bartlett's Test of Sphericity	Approx. Chi-Square	791.224
	df	3
	Sig.	.000

According to the results of communalities, there were no items of the scale which had communality value under 0.4, thus all the three items were included in the FA.

Table 6.26: Total Variance Explained-Importance of possessing the items on self-efficacies scale

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.311	77.031	77.031	2.311	77.031	77.031
2	.433	14.429	91.460			
3	.256	8.540	100.000			

Extraction Method: PCA

PCA, using the eigenvalues greater than one criterion, produced one factor accounting for 77.03 % of the total variance. All the items in the scale loaded highly on this factor. Therefore, the scale seems to be a general scale which assesses the importance of possessing relevant vocational self-efficacies in order to pursue any occupation.

6.5.4.7 Factor analysis 7: Accounting intention scale

Factor analysis was applied to five questioned items of intention. As the first step in the FA, appropriateness of FA for the scale of work values was tested using the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test of Sphericity. The results (Table 6.27) revealed that KMO was 0.905 and Bartlett's test of Sphericity was significant (chi-square=2760.710, df=10, p<0.005) respectively, which means the appropriateness of FA was confirmed.

Table 6.27: KMO and Bartlett's Test-Accounting intention scale

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.905
Bartlett's Test of Sphericity	Approx. Chi-Square	2760.710
	df	10
	Sig.	.000

According to the results of communalities, all items of intention had communality values up to 0.4, thus all the five items were included in the FA.

Table 6.28: Total Variance Explained-Accounting intention scale

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.085	81.697	81.697	4.085	81.697	81.697
2	.365	7.300	88.997			
3	.216	4.324	93.321			
4	.198	3.965	97.285			
5	.136	2.715	100.000			

Extraction Method: PCA

PCA, using the eigenvalues greater than one criterion, produced one factor accounting for 81.70 % of the total variance of intention. All the items in the scale loaded highly on this factor. Therefore, the scale seems to be a general scale which assesses the amount of intention towards pursuing a career in the AP.

6.5.4.8 Factor analysis 8: Impression of accounting educator scale

The appropriateness of FA for the scale of work values was tested using the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test of Sphericity. The results revealed that KMO was 0.911 and Bartlett's test of Sphericity was significant (chi-square=2917.048, df=91, $p<0.005$) respectively, which means the appropriateness of FA was satisfied.

Table 6.29: KMO and Bartlett's Test-Impression of accounting educator scale

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.911
Bartlett's Test of Sphericity	Approx. Chi-Square	2917.048
	df	91
	Sig.	.000

According to the results of communalities, there was one belief item (AE 3 "he/she made the lesson pleasant") which had a communality value under 0.4, thus only the 12 items were included in the FA.

In order to decide the number of factors to extract, Kaiser's Criterion was employed. According to the results of the Kaiser's Criterion, three components were revealed to have an eigenvalue greater than 1, explaining 44.56 %, 8.95 % and 7.84% of the total variance (Table 6.30). Therefore, three can be accepted as an appropriate number of factors for the scale of impression of accounting educator.

Table 6.30: Total Variance Explained- Impression of accounting educator scale

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.238	44.559	44.559	6.238	44.559	44.559
2	1.250	8.929	53.488	1.250	8.929	53.488
3	1.098	7.843	61.330	1.098	7.843	61.330
4	.867	6.192	67.523			
5	.708	5.059	72.581			
6	.595	4.249	76.830			
7	.518	3.703	80.533			
8	.499	3.567	84.100			
9	.476	3.398	87.497			
10	.439	3.132	90.630			
11	.362	2.588	93.218			
12	.342	2.444	95.662			
13	.320	2.287	97.949			
14	.287	2.051	100.000			

Extraction Method: PCA

A PCA, followed by Varimax rotation, was conducted to determine the underlying factors of the accounting educator scale and the items loading on each of them. Table 6.31 shows the factor loadings (correlations) between each item and each extracted factor. On this scale, the interpretability of the solution was rendered problematic because of three items which loaded on more than one factor, as can be seen in Table 6.31. The item AE 1 “The AE was the best teacher I had during my studies up until today” and the item AE 5 “she/he knew how to make the FAC interesting” were diffused across two factors. Therefore, it was decided that these items should not be included in any of the sub-factors.

Table 6.31: Rotated Component Matrix- Impression of accounting educator scale

Questionnaire Items	Dimensions of accounting educator scale		
	Teaching ability	Recruitment ability	Personality
Accounting Educator 10	.771		
Accounting Educator 12	.730		
Accounting Educator 2	.723		
Accounting Educator 9	.709		
Accounting Educator 11	.694		
Accounting Educator 1	.578	.517	
Accounting Educator 5	.575	.521	
Accounting Educator 8		.817	
Accounting Educator 7		.812	
Accounting Educator 14			.859
Accounting Educator 13			.758
Accounting Educator 4			.552

Extraction Method: PCA

Rotation Method: Varimax with Kaiser normalization

The interpretation of the three factors, as shown in Table 6.32, might be presented as follows:

Factor 1 consists of five items that are: AE 2, the AE had a great power to communicate, AE 9, he/she made every effort to explain accountancy in a simple way, AE10, he/she was very lively during the presentation of the lesson, AE 11, he/she was very patient and repeatedly explained difficult notions and AE 12, he/she knew accounting well as a science and an object. Factor 1 is considered to reflect the "teaching ability" of accounting educator.

Factor 2 consists of two items that are: AE 7, the AE made me love accountancy and AE 8, he/she had a positive influence on my view of the AP, and is considered to reflect the "recruitment ability" of accounting educator (role model).

Factor 3 consists of three items that are: AE 4, the AE was very friendly to the student, AE 13 he/she was cold and indifferent while teaching was ironic to the students and AE 14 he/she was fair to the students, and is considered to reflect the "personality" of accounting educator. The final Cronbach alpha for accounting educator scale is .848.

6.5.4.9 Factor analysis 9: Perception of FAC scale

The appropriateness of FA for the scale of work values was tested using the Kaiser-Meyer-Olkin (KMO) measure and Bartlett's test of Sphericity. The results revealed that KMO was 0.851 and Bartlett's test of Sphericity was significant (chi-square=1583.241 df=28, $p<0.005$) respectively, which means the appropriateness of FA was confirmed.

Table 6.32: KMO and Bartlett's Test-Perception of FAC scale

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.851
Bartlett's Test of Sphericity	Approx. Chi-Square	1583.241
	df	28
	Sig.	.000

According to the results of communalities, there was one item (FAC 7 item "The book of FAC is simple and understandable") on the scale of FAC with communality .278. Therefore this item was excluded from further analysis and only 8 items were included in the FA. In order to decide the number of factors to extract, Kaiser's Criterion was employed. According to the results of the Kaiser's Criterion, 2 components were produced (Table 6.33). Therefore, two can be accepted as an appropriate number of factors for the scale of FAC.

Table 6.33: Total Variance Explained-Perception of FAC scale

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3.899	48.741	48.741	3.899	48.741	48.741
2	1.353	16.917	65.657	1.353	16.917	65.657
3	.651	8.138	73.795			
4	.551	6.885	80.681			
5	.503	6.289	86.969			
6	.466	5.824	92.793			
7	.371	4.638	97.431			
8	.206	2.569	100.000			

Extraction Method: PCA

A PCA, followed by Varimax rotation, was conducted to determine the underlying FAC factors and the items loading on it of them. In this scale, all the items loaded highly on the two factors. Table 6.34 shows the factor loadings (correlation) between each item of FAC and each extracted factor.

Table 6.34: Rotated Component Matrix-Perception of FAC scale

Questionnaire Items	Dimensions	
	Nature	Difficulty
FAC 3	.876	
FAC 4	.839	
FAC 11	.808	
FAC 10	.703	
FAC 9		.815
FAC 6		.802
FAC 1		.706
FAC 13		.658

Extraction Method: PCA

Rotation Method: Varimax with Kaiser normalization

The interpretation of the two factors, as shown in Table 6.32, might be presented as follows:

Factor 1 consists of four items: FAC 3, the FAC is very interesting, FAC 4, I like the FAC, FAC 10, the FAC is boring, FAC 11, the FAC was for me the most interesting course compared to the rest of the courses in this semester; factor 1 is considered to reflect the “nature of the FAC”.

Factor 2 consists of four items: FAC 1, the FAC is easy and comprehensive, FAC 6, the exercises in the FAC seemed very difficult to me, FAC 9, I did not encounter any difficulty in solving accounting exercises and FAC 13, I believe that I will succeed in the final exam of the FAC; factor 2 is considered to reflect the "perceived difficulty of the FAC".

The final Cronbach alpha for the scale of FAC is .847.

6.6 Manipulation of data for main analysis

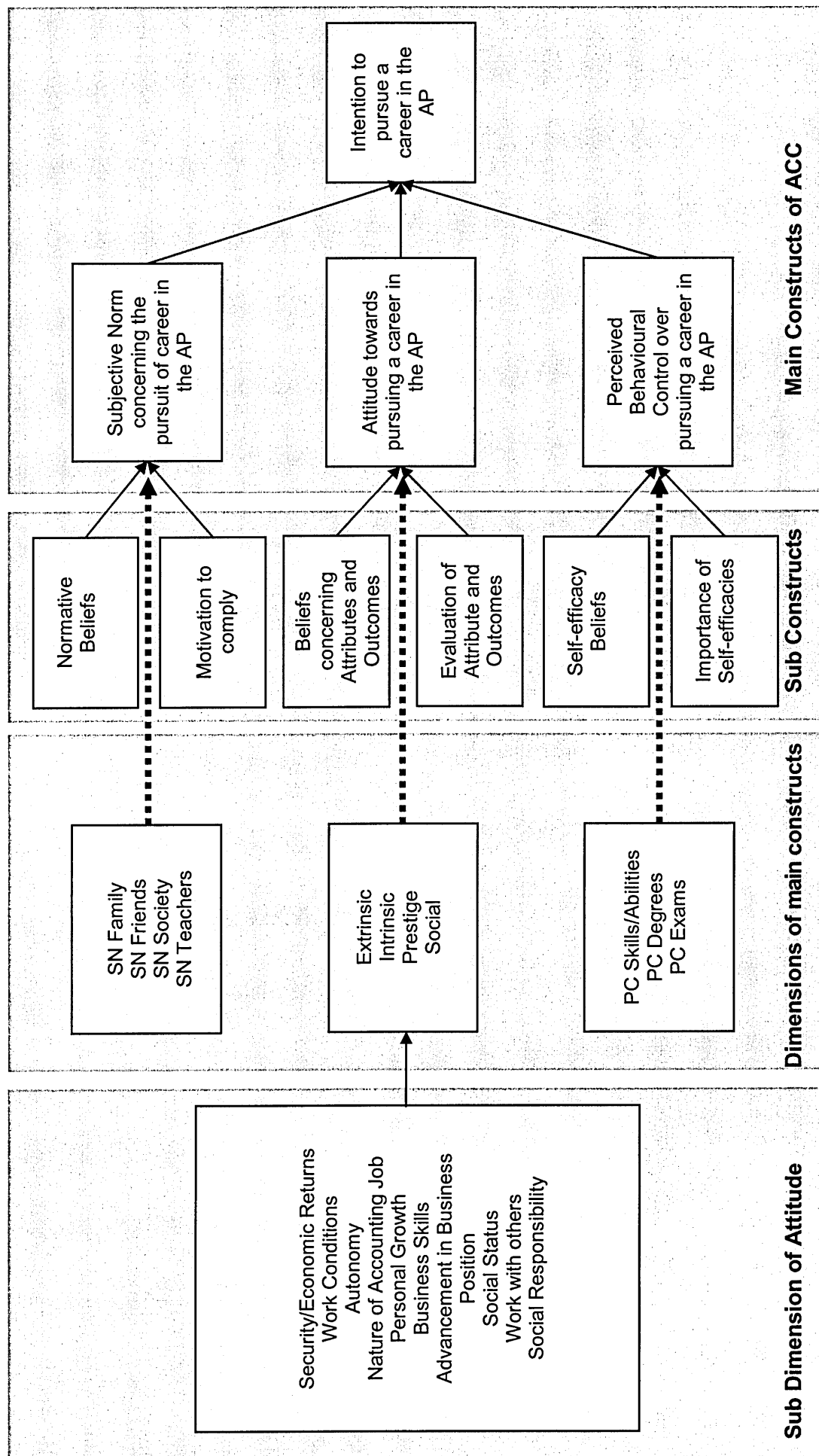
In this research there was a critical need to create new measures for the variables under investigation. The large number of items used – as a measurement of each variable – had to be aggregated to obtain one figure for each group of questions, which represented the measure of the variable (Edwards, 2001a; Bisbe et al., 2006). Based on the theoretical framework and the results of the reliability assessment and the FA, the next stage is to create the measures of the constructs of an ACC and the categorical variables needed in order to test the hypotheses of the study, described in Chapters 7 and 8.

6.6.1 Creating final measures of study

Critical to this study are measures of the following variables: subjective norm, attitude, extrinsic dimension of attitude, intrinsic dimension of attitude, prestige dimension of

attitude, social dimension of attitude, perceived behavioural control, intention to pursue an accounting career, impression of accounting educator and perception of the FAC (Figure 6.2). In order to test each of the hypotheses all or some of these measurements were needed. Perry (1995, p.17) noted "that some academic authorities consider that PhD research should rarely use a previously developed instrument in a new application without extensive justification and they would argue that an old instrument in a new application is merely Masters-level work and is not appropriate for PhD work". Furthermore, no known pre-existing validated measures were available for the constructs under investigation. Therefore, emphasis was placed upon the development of new measures for the constructs in the present investigation that are both valid and reliable. In this section, the final measures of the dependent, independent and confounding variables are presented:

Figure 6.2: Measures used in the study and their relationships



The measure of **Subjective norm concerning the pursuit of a career in the AP** has been computed using two scales, the scale of normative beliefs and the scale of motivation to comply. It consists of four aggregate items (eight individual items). The development of the items for this measure was based on the literature on ACC (Cohen and Hanno, 1994; Wilson and Mason, 1995; Hartwell et al., 2005) and on the results of the experience survey. Four important referents of relevance for the pursuit of an accounting career have been identified. Family, educators, society, peers and friends, the “important referents”, were found to be important sources of influence for the present sample.

With respect to each of these four referents two items assessed normative belief strength and motivation to comply. For example, the statement “My family encouraged me to follow an accounting career” was rated on a Likert scale to produce a measure of normative beliefs strength; and to assess motivation to comply, students rated on the same format scale the statement “My family’s opinion about my future occupation is of great importance to me and the choice of my future occupation”. A 5-point Likert scale was used, ranging from 1 = “completely disagree” to 5 = “completely agree”. The items of normative belief strength and motivation to comply were multiplied respectively. The final products were summed and divided by four (the number of included items) to obtain a belief-based estimate of subjective norms. The range of possible scores was 1 to 25, with higher scores indicating stronger positive subjective norms concerning the pursuit of an accounting career. The measures of dimensions of subjective norm are:

$$\text{SN family} = \text{SN1} \times \text{SN5}$$

$$\text{SN peers and friends} = \text{SN2} \times \text{SN6}$$

$$\text{SN society} = \text{SN3} \times \text{SN7}$$

$$\text{SN teachers} = \text{SN4} \times \text{SN8}$$

$$\text{SN} = (\text{SN family} + \text{SN peers and friends} + \text{SN society} + \text{SN teachers}) / 4$$

$$\text{Normative beliefs} = (\text{SN 1} + \text{SN 2} + \text{SN 3} + \text{SN 4}) / 4$$

$$\text{Motivation to comply} = (\text{SN 5} + \text{SN 6} + \text{SN 7} + \text{SN 8}) / 4$$

The measure of **Work values** has been computed using the scale of work values, consisting of 13 items. The development of the items on the scale was based on the work value literature and relevant issues (e.g., career choice) (Super, 1970, 1973; Ros et

al., 1999) and previous research into preferred job characteristics by business and accounting students (Carpenter and Strawser, 1970; Zikmund et al., 1977; Inman et al., 1989). The scale assesses the evaluation of each attribute and outcome associated with work in general. The scale asks respondents to indicate the degree of importance for them with 13 statements (e.g., “A job that offers a secure and stable future”; “A job that is interesting to do”). A 5-point Likert scale was used: 1 = “not at all important”, 5 = “very important”. The scale of work values assesses four extrinsic individual work values (security, economic rewards, work conditions, autonomy), four intrinsic individual work values (nature of job, creativity, personal growth and job relevant to your studies), three prestige individual work values (advancement/promotion, business decision making and social status) and two social individual work values (work with others and contribution to society). The range of possible scores was 1 to 5, with higher scores indicating stronger positive work values.

The measures of dimensions of work values are:

$$\text{Extrinsic work values} = (WV1 + WV2 + WV3 + WV12)/4$$

$$\text{Intrinsic work values} = (WV8 + WV10 + WV13 + WV14)/4$$

$$\text{Prestige work values} = (WV4 + WV5 + WV7)/3$$

$$\text{Social work values} = (WV15 + WV16)/2$$

To compute the score for the work values scale, the 13 items measuring extrinsic, intrinsic, prestige and social work values were summed and then divided by 13 (the number of total items):

$$\text{Work values} = (WV1 + WV2 + WV3 + WV4 + WV5 + WV7 + WV8 + WV10 + WV12 + WV13 + WV14 + WV15 + WV16)/13$$

The measure of **Beliefs concerning the attributes and outcomes associated with the AP** (Perception of the AP) has been computed using the scale of accounting beliefs and consists of 30 items in a 5-point Likert scale, ranging from 1 = “completely disagree” to 5 = “completely agree”. The scale aims to assess the strength of students’ beliefs that specific attributes and outcomes are associated with the AP (e.g., “accounting job has high status and prestige”). The operationalization of items was developed in accordance with work value theory (Super, 1970, 1973; Ros et al., 1999).

The choice of most of the items on the scale was based on ACC research (Nelson, 1991, Cohen and Hanno, 1994; Felton et al., 1994; Ahmed et al., 1997; Auyeng and Sands, 1997; Lowe and Simons, 1997; Mounce and Mauldin, 1998; Nelson et al., 2002).

On this scale, eight of the items measure beliefs associated with extrinsic attributes and outcomes (two items job security, two items economic returns, two items work conditions and two items autonomy); eight items measure beliefs associated with intrinsic characteristics or outcomes (two items nature of job, two items creativity, two items personal growth and two job relevant with management studies); eight items measure beliefs associated with prestige characteristics or outcomes (three items advancement/promotion, two items business decision making and three items social status); and six items measure beliefs associated with social characteristics or outcomes (three items work with others and three items contribution to society). The range of possible scores was 1 to 5, with higher scores indicating stronger positive accounting beliefs towards pursuing an accounting career:

$$\text{Extrinsic beliefs} = (AB1 + AB2 + AB3 + AB4 + AB5 + AB26 + AB27 + AB28)/8$$

$$\text{Intrinsic beliefs} = (AB17 + AB18 + AB22 + AB23 + AB29 + AB30 + AB31 + AB32)/8$$

$$\text{Prestige beliefs} = (AB7 + AB8 + AB9 + AB10 + AB11 + AB14 + AB15 + AB16)/8$$

$$\text{Social beliefs} = (AB34 + AB35 + AB36 + AB37 + AB38 + AB39)/6$$

To compute the score for accounting beliefs (perception), the 30 items measuring beliefs concerning the characteristics and outcomes associated with the AP were summed and then divided by 30 (the number of total items).

Beliefs concerning the attributes and outcomes associated with the AP (total perception):

$$\begin{aligned} &\text{Perception} \\ &= (AB1 + AB2 + AB3 + AB4 + AB6 + AB7 + AB8 + AB9 + AB10 + AB11 + AB14 \\ &+ AB15 + AB16 + AB17 + AB18 + AB22 + AB23 + AB26 + AB27 + AB28 + AB29 \\ &+ AB30 + AB31 + AB32 + AB34 + AB35 + AB36 + AB37 + AB38 + AB39)/30 \end{aligned}$$

The measure of **Attitude towards pursuing a career in the accounting profession** was computed using the scale of attitude towards the accounting profession

(SAAP) (Tourna and Hassall, 2006b). Consistent with the expectancy value model (Fishbein, 1963; Feather, 1982), attitude towards pursuing a career in the AP is assumed to be determined by beliefs concerning the attributes and outcomes associated with the profession, each belief weighted by the subjective value of the attributes and outcomes in question:

$$\text{Attitude TAP} = \sum (AB) \times (WV)$$

The measure of attitude has been computed using the scales of work values and the scale of accounting beliefs. It consists of 30 aggregate items (43 individual items). In order to compute the total attitude towards pursuing an accounting career, the items of both scales – the scale of beliefs concerning the attributes and outcomes associated with the accounting career (30 items) and the scale of work values (13 items) – will be used. The sum of 30 aggregate items scores (two job security items scores, two economic returns items scores, two work conditions items scores, two autonomy items scores, two interesting job items cores, two creativity items scores, two personal growth items scores, two job relevant to management studies items scores, three advancement/promotion items scores, two business decision making items scores, three social status items scores, 3 work with others items scores and three contribution to society items scores) divided by 30 (the number of included items) was the total score of attitude. The range of possible scores was 1 to 25, with higher scores indicated more positive attitude towards pursuing the AP.

Based on the theory of work values, 13 individual work values have been used in the scale of work values in this study. However, FA has extracted nine sub-dimensions of the accounting beliefs scale. Four dimensions (extrinsic, intrinsic, prestige and social) have been identified for both scales (work values and accounting beliefs). To compute the score of attitude towards pursuing a career in the AP, the scores of all dimensions and sub-dimensions will be computed.

The measure of **Extrinsic dimension of attitude** has been computed using eight items concerning beliefs about extrinsic attributes and outcomes associated with the AP (two items for job security, two items for economic return, two items for work conditions and two items for autonomy) and four items concerning extrinsic work values (security, economic rewards, work conditions and autonomy). The measure consists of eight aggregate items (twelve individual items). To produce a belief-based estimate of the extrinsic dimension of attitude, current author multiplied extrinsic belief

strength items with extrinsic outcome evaluation items, with the resulting products summed, in accordance with the expectancy-value model (Fishbein, 1963; Feather, 1982). The general form used for the computation of the individual scores was (Extrinsic Belief x Extrinsic Work Value). Specifically in order to compute the score of the extrinsic dimension, the two items concerning job security beliefs were multiplied by the item concerning job security work value, the two items concerning economic returns beliefs were multiplied by the item concerning economic return work value, the two items concerning work condition beliefs were multiplied by the item concerning work condition work value and the two items concerning autonomy beliefs were multiplied by the item concerning work values autonomy. The sum of eight individuals scores of economic returns, job security and work conditions divided by eight (the number of included items) resulted in the total score of the extrinsic dimension of attitude. Scale scores may range from 1 to 25, with higher scores indicating more strength placed on the extrinsic characteristic or outcome being associated with the AP.

$$\text{Job security} = [(AB3 + AB4) \times WV2]/2$$

$$\text{Economic return} = [(AB1 + AB2) \times WV1]/2$$

$$\begin{aligned} &\text{Security and Economic rewards sub-dimension} \\ &= [(AB3 + AB4) \times WV2]/2 + [(AB1 + AB2) \times WV1]/2 \end{aligned}$$

$$\text{Work condition sub-dimension} = [(AB6 + AB28) \times WV3]/2$$

$$\text{Autonomy sub-dimension} = [(AB26 + AB27) \times WV12]/2$$

The sum of security/economic rewards sub-dimension, working conditions sub-dimension and autonomy sub-dimension divided by the number of included sub-dimensions gave the score for the extrinsic dimension:

$$\begin{aligned} &\text{Extrinsic Dimension} \\ &= (\text{Security and economic rewards sub-dimension} + \text{work conditions sub-dimension} + \text{autonomy sub-dimension})/3. \end{aligned}$$

The measure of the **Intrinsic dimension of attitude** was computed using eight items concerning beliefs about intrinsic attributes and outcomes associated with the AP (two items for interesting job, two items for creative job, two items for personal growth and two items for relevant to management studies) and four items concerning intrinsic

work values (interesting job, creative job, personal growth and job relevant to my studies). The measure consists of eight aggregate items (twelve individual items). To produce a belief-based estimate of the intrinsic dimension of attitude, current author multiplied intrinsic belief strength items with intrinsic outcome evaluation items, with the resulting products summed, in accordance with the expectancy-value model (Fishbein, 1963; Feather, 1982). The general form used for the computation of the individual scores was (Intrinsic Belief x Intrinsic Work Value). Specifically, in order to compute the score of the intrinsic dimension of attitude, the two items concerning beliefs about the interesting nature of accounting job were multiplied by the item concerning interesting job work value; the two items concerning beliefs about the creative nature of accounting job were multiplied by the item concerning creativity work value; the two items concerning beliefs about the personal growth in the AP were multiplied by the item concerning personal growth work value; and the two items concerning beliefs about the relationship of management studies to the AP were multiplied by the item concerning work relevant to my studies work value. The sum of eight individual scores (interesting accounting job, creativity, personal growth and work relevant to management studies) dividing by eight (the number of included items) gave the total score for the intrinsic dimension of attitude. Scale scores may range from 1 to 25, with higher scores indicating more strength placed on intrinsic characteristic or outcome being associated with the AP.

$$\text{Interesting job} = [(AB17 + AB18) \times WV8]/2$$

$$\text{Creative job} = [(AB22 + AB23) \times WV10]/2$$

$$\text{Nature of accounting job sub dimension} = \text{Interesting job} + \text{Creative job} = \\ = [(AB17 + AB18) \times WV8]/2 + [(AB22 + AB23) \times WV10]/2$$

$$\text{Personal growth} = [(AB29 + AB30) \times WV13]/2$$

$$\text{Job relevant with management studies} = [(AB31 + AB32) \times WV14]/2$$

$$\text{Developing Business Skills sub dimension} \\ = \text{Personal growth} + \text{Job relevant with management studies} \\ = [(AB29 + AB30) \times WV13]/2 + [(AB31 + AB32) \times WV14]/2$$

The sum of the nature of the accounting job sub-dimension and developing business skills sub-dimension divided by the number of included sub-dimensions gave the score for the intrinsic dimension:

Intrinsic Dimension

$$= (\text{Nature of accounting job sub dimension} + \text{Developing business skills sub dimension})/2.$$

The measure of **Prestige dimension of attitude** was computed using eight items concerning beliefs about prestige attributes and outcomes associated with the AP (three items for advancement/promotion, two items for business decision making and three items for social status) and three items concerning prestige work values (advancement/promotion, decision making and social status). The measure consists of eight aggregate items (eleven individual items). To produce a belief-based estimate of the prestige dimension of attitude, current author multiplied prestige belief strength items with prestige work values, with the resulting products summed, in accordance with the expectancy-value model (Fishbein, 1963; Feather, 1982). The general form used for the computation of the individual scores was (Prestige Belief x Prestige Work Value). Specifically in order to compute the score of prestige dimension, the three items concerning beliefs about the advancement/promotion in the AP were multiplied by the item advancement/promotion work value; the two items concerning decision making accounting beliefs were multiplied by the item concerning decision making work value; and the three items concerning beliefs about social status of the AP were multiplied by the item concerning social status work value. The sum of eight individual scores (advancement in business position and social status) divided by eight (the number of included items) gave the total score of the prestige dimension of attitude. Scale scores may range from 1 to 25, with higher scores indicating more strength placed on prestige characteristic or outcome being associated with the AP.

$$\text{Advancement} = [(AB7 + AB8 + AB9) \times WV4]/3$$

$$\text{Business decision making} = [(AB10 + AB11) \times WV5]/2$$

Advancement in Business Positions sub dimension

$$\begin{aligned} &= \text{Advancement} + \text{Business decision making} \\ &= [(AB7 + AB8 + AB9) \times WV4]/3 + [(AB10 + AB11) \times WV5]/2 \end{aligned}$$

$$\text{Social status sub dimension} = [(AB14 + AB15 + AB16) \times WV7]/3$$

The sum of the advancement in business positions sub-dimension and the social status sub-dimension divided by the number of included sub-dimensions gave the score for the prestige dimension:

$$\text{Prestige Dimension} = (\text{Advancement in business positions sub dimension} + \text{Social status sub dimension}) / 2.$$

The measure of **Social dimension of attitude** was computed using six items concerning beliefs about social attributes and outcomes associated with the AP (three items for work with others and three items for contribution to society) and two items concerning social work values (work with others and contribution to society). The measure consists of six aggregate items (eight individual items). To produce a belief-based estimate of the social dimension of attitude, current author multiplied social belief strength items with social outcome evaluation items, with the resulting products summed, in accordance with the expectancy-value model (Fishbein, 1963; Feather, 1982). The general form used for the computation of the individual scores was (Social Belief x Social Work Value). Specifically in order to compute the score of social dimension, the three belief items concerning work with others into the AP were multiplied by the item of work value work with others; the three belief items concerning contribution to society of the AP were multiplied by the item of work value contribution to society. The sum of six individual scores (3 scores for work with others and 3 scores for contribution to society) divided by six (the number of included items) gave the total score of the social dimension of attitude. Scale scores may range from 1 to 25, with higher scores indicating more strength placed on social characteristic or outcome being associated with the AP.

$$\text{Work with others sub-dimension} = [(AB34 + AB35 + AB36) \times WV15] / 3$$

$$\text{Contribution to society sub-dimension} = [(AB37 + AB38 + AB39) \times WV17] / 3$$

The sum of work with others sub-dimension and contribution to society sub-dimension divided by the number of included sub-dimensions gave the score for the social dimension:

$$\text{Social Dimension}$$

$$= \Sigma (\text{Work with others sub-dimension} + \text{Contribution to society sub-dimension})/2.$$

The sum of extrinsic, intrinsic, prestige and social dimension divided by four gives the score for the attitude:

$$\begin{aligned} & \textbf{Attitude towards pursuing a career in the accounting profession} \\ & = (\text{Extrinsic dimension} + \text{Intrinsic dimension} + \text{Prestige dimension} + \text{Social dimension})/4 \end{aligned}$$

The measure of **Perceived control over pursuing a career in the AP** was computed using two scales, the scale of self-efficacy beliefs concerning the pursuit of a career in the AP and the scale of importance of possessing relevant vocational self-efficacies. The measure consists of three aggregate items (six individual items). In the present study, three factors that might interfere with choosing the AP as an occupation (e.g., skills and abilities, relevant degrees and success in professional exams) were identified in the experienced survey and have survived in the FA. With respect to each of these three factors, two items assessed the strength of self-efficacy beliefs concerning the pursuit of a career in the AP and the importance of possessing relevant self-efficacies. For example, the statement “I have the skills and abilities to be an accountant” was rated on a Likert scale to produce a measure of “self-efficacy belief”; and to assess the “strength of importance belief”, students rated on the same Likert scale the statement “It is very important to me to have the relevant skills and abilities needed in order to follow any occupation”. A 5-point Likert scale was used, ranging from 1 = “completely disagree” to 5 = “completely agree”. The items of accounting self efficacy beliefs and the importance of possessing the relevant self-efficacies were multiplied. The final products were summed and divided by three (the number of included items) to obtain a belief-based estimate of perceived control. The range of possible scores was 1 to 25.

$$\text{PC skills and abilities to be accountant} = \text{PC1} \times \text{PC5}$$

$$\text{PC possessing relevant degrees and qualification} = \text{PC2} \times \text{PC6}$$

$$\text{PC ability to succeed in the professional exams} = \text{PC3} \times \text{PC7}$$

$$\text{Perceive Control} = (\text{PC skills and abilities} + \text{PC relevant degree} + \text{PC ability to succeed in the accounting professional exams}) / 3$$

$$\text{Self efficacy beliefs} = (\text{PC1} + \text{PC2} + \text{PC3}) / 3$$

$$\text{Importance of possessing the self efficacies} = (\text{PC5} + \text{PC6} + \text{PC7}) / 3$$

The measure of **Intention to pursue a career in the AP** was computed using the scale of the accounting intention (AIS) that was developed for the purposes of the present investigation. The scale consists of five items (see Appendix 2) that had been developed according to Silvia's (2001) suggestions. The aim was to develop a short general scale of intention which shows reliability and validity. To compute the score of intention, the five items of intention were summed and then divided by five (the total number of items). The range of possible scores was 1 to 5, with higher scores indicating stronger positive intention to pursue an accounting career:

$$\text{Intention to pursue a career in the AP} = (\text{AI1} + \text{AI2} + \text{AI3} + \text{AI4} + \text{AI5}) / 5$$

The measure of **Impression of accounting educator** was computed using a new scale developed for the present investigation. The scale contains 10 items that assess 3 personality characteristics, 5 teaching ability and 2 recruitment ability beliefs of accounting educator. The development of the scale's items was based on counselling psychology (Super, 1970, 1973; Ros et al., 1999) and relevant accounting literature (Albrecht and Sack, 2000). A 5-point Likert scale was used, ranging from 1 = "completely disagree" to 5 = "completely agree".

To compute the total score of impression of accounting educator, the 10 items measuring beliefs for accounting educator were summed and then divided by 10 (the total number of items):

$$\text{Impression of accounting educator} \\ = (\text{AE2} + \text{AE4} + \text{AE7} + \text{AE8} + \text{AE9} + \text{AE10} + \text{AE11} + \text{AE12} + \text{AE13} + \\ + \text{AE14})/10$$

The range of possible scores was 1 to 5, with higher scores indicating a more positive impression of the accounting educator.

The measure of **Perception of FAC** was computed using a new scale developed for the present investigation. The scale contains eight items that assess four beliefs concerning the perceived difficulty of the FAC and four beliefs concerning the nature the FAC. The development of the scale's items was based on relevant accounting literature (Baldwin and Ingram 1991; AECC, 1992; Albrecht and Sack, 2000; Geiger and Ogilby, 2000). To compute the score of FAC, the eight items measuring beliefs concerning the characteristics of the FAC were summed and then divided by eight (the total number of items). A 5-point Likert scale was used, ranging from 1 = "completely disagree" to 5 "completely agree".

To compute the total score of perception of FAC the 8 items measuring beliefs concerning the FAC were summed and then divided by 8 (the total number of items):

$$\text{Perception of FAC} \\ = (\text{FAC1} + \text{FAC3} + \text{FAC4} + \text{FAC6} + \text{FAC9} + \text{FAC10} + \text{FAC11} + \text{FAC13})/8$$

The range of possible scores was 1 to 5, with higher scores indicating a more positive perception of the FAC.

6.6.2 Creating new categorical variables of intention

In order to test hypotheses and to identify differences between students, the data analysis required to change the nature of some variables from ordinal variables to categorical variables. For example, in order to evaluate the model of the ACC and to identify differences on the model's constructs between students with diverse intentions to pursue a career in the AP, there was a need to change the data on the intention variable from ordinal to nominal by using the "recode" order in SPSS. By using this order, the variable was collapsed into categories to allow ANOVA and MANOVA test analyses. Therefore, three new categorical variables for the intention to pursue an accounting career – negative, neutral and positive – were created to enable the analysis to be conducted. Each student in the sample was reclassified by his or her intention into

one of three groups of intention. The first group (negative intention) consists of all students with a total score of intention from 1 to 2.3. The second group (neutral intention) consists of all students with a total score of intention from 2.4 to 3.6. The third group (positive intention) consists of all students with a total score of intention from 3.7 to 5. In the scale of intention, score 1 indicates strongly disagree with the intention to pursue a career in the AP and score 5 indicates strongly agree with the intention to pursue a career in the AP.

6.6.3 Choice of ATEI as innovative and traditional groups

At the beginning of the semester and after the collection of questionnaires at the beginning of the FAC, an ANOVA test was employed to identify if there was any significant difference in the main variables under investigation between groups of students attending different ATEIs. According to the results of the ANOVA, there were no statistically significant differences between the variables, except for the variable subjective norm at 5% level of significance. Based on the above results, the researcher created the traditional and innovative FAC groups of students. The ATEI of Athens and the ATEI of Piraeus were classified as innovative FAC group and the five other ATEIs as traditional FAC group. There are more reasons for this choice apart from the test of equivalence concerning the constructs of an ACC: the ATEIs of Athens and Piraeus are located in metropolitan cities and the researcher had easy access to more guest speakers; the two ATEIs are the oldest in Greece, they're well-established and very popular with students; a greater number of students study at these ATEIs, that is the number of students attending is equivalent in to the rest five ATEIs .

6.7 Summary

This chapter has described the preparation of the data for the main analysis in order to test the hypotheses of the study. The 627 questionnaires collected at beginning of the FAC and the 528 collected at the end of the FAC were edited, coded and entered in SPSS version 13.

Corrected item-total correlations, Cronbach's alpha and test-retest were employed to assess the reliability of the new developed scales used in this study. The results of Cronbach's alpha and test-retest demonstrate that the scales with the final items are reliable and have good content and construct reliability.

Factor analysis was employed to test the construct validity of the scales, to reduce the items and to identify the underlying dimensions and sub-dimensions of the scales. Based on the results of the reliability tests and the FA, the final measures of main and confounding variables were computed and new categorical variables created. Finally, an ANOVA test was conducted to identify equivalent groups of students at different ATEIs concerning the variables of the study and it was decided to create a traditional and an innovative group of students.

Chapter 7.

EMPIRICAL TESTING OF THE THEORETICAL MODEL OF ACC

7.1 Introduction

This chapter aims to provide answers to some of the main research questions as to what are the predictors and sub-predictors of intention to pursue a career in the AP, and what are the differences concerning the constructs of an ACC among students with different intentions to pursue a career in the AP. First, multivariate analysis – standard, stepwise and hierarchical regression – undertaken is described in this chapter to examine how well the set of constructs of the ACC are able to predict students' intentions to pursue a career in the AP. Further, in order to examine the differences among groups, the analysis will continue with simple mean-difference tests for the intention groups (ANOVA test). This chapter overall will show the extent to which the new theoretical model of an ACC can be used to predict and explain the ACC of management students at the beginning and at the end of the FAC.

This chapter consists of eight main sections. After this brief introduction, Section 7.2 provides demographic information for the sample and Section 7.3 presents descriptive statistics for the main variables of the study. Section 7.4 describes the hypotheses tested in this part of the study. Section 7.5 presents an overview of the assumptions underlying the statistical analyses that have been undertaken. Regression analysis of the new theoretical model is presented in Section 7.6. The similarities and differences concerning the constructs of the ACC between groups of students with negative, neutral and positive intention respectively are discussed in Section 7.7. Finally, Section 7.8 presents the conclusion of the chapter.

7.2 Sample profile

Table 7.1 presents demographic information about the students in the experimental and control groups. According to the survey results, the students who participated in the study at the beginning of the FAC were from the following ATEIs: ATEI Athens: 135 (23%), ATEI Piraeus: 100 (17.1%), ATEI Patra: 94 (16%), ATEI Chalkida: 88 (15%), ATEI Larisa: 58 (9.9%), ATEI Kozani: 63 (10.8%), and ATEI Seres: 48 (8.2%). The participants comprised 345 women (58.9%) and 232 men (39.6%). Most of the students

were under 21 years old (82%), and they were officially enrolled in the first academic semester (80.7%). Most of the students were Greek, with only 3.4% of students being of other nationalities. Approximately 17% of the students had attended an accounting course before their first academic semester.

The demographic characteristics of the sample at the end of the FAC were quite similar to those at the beginning of the FAC. The students in the survey were almost equally drawn from the ATEIs Athens and Piraeus (47.6 per cent) on the one hand and from the other five ATEIs (52.4 per cent) on the other hand. On the day the second questionnaire was distributed, the majority of students were female, under 21 years old, of Greek nationality and officially enrolled in the first academic semester (64.1%).

The control group consisted of 42 students at the beginning and 37 students at the end of the FAC. All members of the control group were students at the ATEI Athens, male and of Greek nationality, with the majority under 20 years old. They were officially enrolled in the first academic semester. Only one student had attended an accounting course in high school and this student was excluded from the control group sample.

Table 7.1: Demographic characteristics of the sample

	Experimental groups				Control group	
	Beginning	%	End	%	Beginning	End
Institution						
Athens	135	23	180	37.1	42	37
Piraeus	100	17.1	51	10.5	0	0
Patra	94	16	41	8.5	0	0
Chalkida	88	15	82	16.9	0	0
Larisa	58	9.9	58	12	0	0
Kozani	63	10.8	51	10.5	0	0
Seres	48	8.2	22	4.5	0	0
Total	586	100.0	485	100.0	42	37
Sex						
Male	232	39.6	190	39.2	29	27
Female	345	58.9	284	58.6	2	2
Age						
Under 19	85	15	52	11.2	8	8
19-20	395	67	310	66.8	15	16
21-22	76	13	67	14.4	5	4
23-24	19	3	21	4.5	2	1
25-30	8	1.5	10	2.2	1	1
Over 30	3	0.5	4	0.9	0	0
Academic semester						
1	473	80.7	311	64.1	21	22
2	57	9.7	88	18.1	6	4
3	19	3.2	34	7.0	3	2
4	1	0.2	20	4.1	2	2
5	10	1.7	9	1.9	0	1
6	4	0.7	9	1.9	0	0
7	4	0.7	6	1.2	0	0
Over 8	3	0.3	3	0.6	1	0
Nationality						
Greek	517	88.2	432	89.1	25	26
Other	20	3.4	28	5.8	3	5
Prior Accounting Course						
Yes	101	17.2	129	26.6	0	1
No	479	81.7	353	72.8	39	31

Note: Due to non-responses, some categories do not add up to the total number of students.

7.3 Descriptive statistics

Table 7.2 provides descriptive information for the variable intention to pursue a career in the AP. Overall, at the beginning and at the end of the FAC, management students' scores are below mid-point (3) on intention to pursue a career in the AP. At the end of the FAC, their intention has improved but it is still below mid-point.

Table 7.2: Intention to pursue a career in the AP

Time		N	Minimum	Maximum	Mean	Std. Deviation
Beginning of FAC	Intention	585	1.00	5.00	2.70	1.03
End of FAC	Intention	481	1.00	5.00	2.77	1.06

Table 7.3 shows the dimensions of subjective norms concerning the pursuit of a career in the AP. All of the dimensions are below the mid-point (13). Interestingly, the dimension SN family has ranked higher than all the others dimensions of SN, followed by the dimensions SN society, SN peers/friends and SN teachers at the beginning and at the end of the FAC. The mean scores of all dimensions of SN have been improved at the end of the FAC. Interestingly, the dimension teachers is ranked in third place at the end of the FAC. (Further descriptive statistics of constructs and individual items of subjective norms are presented in Appendix 7.2b).

Table 7.3: Subjective norm

Time		N	Minimum	Maximum	Mean	Std. Deviation
Beginning of FAC	SN family	586	1.00	25.00	11.78	6.20
	SN friends	585	1.00	25.00	8.50	4.96
	SN society	586	1.00	25.00	9.62	5.42
	SN teachers	586	1.00	25.00	8.49	6.10
	Subjective Norm	585	1.00	25.00	9.60	4.49
End of FAC	SN family	485	1.00	25.00	13.01	6.36
	SN friends	484	1.00	25.00	9.45	4.87
	SN society	484	1.00	25.00	10.46	5.37
	SN teachers	484	1.00	25.00	10.26	6.11
	Subjective Norm	483	1.00	25.00	10.80	4.52

Table 7.4 presents descriptive statistics of the attitude and dimensions of attitude towards pursuing a career in the AP, at the beginning and at the end of the FAC. The mean score of attitude is above mid-point (13). Attitude towards pursuing a career in the AP improved between the beginning and the end of the FAC. In addition, all the mean scores of dimensions of attitude are above mid-point. The intrinsic dimension is ranked higher, followed by prestige dimension, extrinsic dimension and social dimension at the beginning of the FAC. Interestingly, at the end of the FAC, all the dimensions of attitude have improved except for the extrinsic dimension, which has deteriorated. (Further descriptive statistics of the constructs, sub-dimensions and individual items of attitude are presented in Appendix 7.2c).

Table 7.4: Attitude and dimensions of Attitude towards pursuing an accounting career

Time		N	Minimum	Maximum	Mean	Std. Deviation
Beginning of FAC	Extrinsic Dimension	573	5.33	23.33	13.46	3.53
	Intrinsic Dimension	570	4.75	25.00	15.50	4.20
	Prestige Dimension	580	3.50	24.58	13.83	3.40
	Social Dimension	579	2.17	25.00	13.28	4.48
	Attitude	552	5.58	23.28	14.05	3.24
End of FAC	Extrinsic Dimension	476	3.83	25.00	13.33	3.37

	Intrinsic Dimension	465	3.25	25.00	15.77	4.37
	Prestige Dimension	466	2.00	24.17	14.25	4.06
	Social Dimension	477	3.00	25.00	13.76	4.49
	Attitude	435	4.89	23.54	14.33	3.26

Table 7.5 shows the mean score of perception of the AP (the sum of all beliefs concerning the attributes and outcomes associated with the AP) of management students, and students' dimensions of beliefs concerning extrinsic, intrinsic, prestige and social attributes and outcomes associated with the AP. The perception towards the pursuit of a career in the AP is above mid-point (3) at the beginning and at the end of the FAC, having improved at the end. Interestingly, beliefs regarding the social attributes and outcomes associated with the AP were below mid-point at the beginning and at the end of the FAC. Furthermore, students' beliefs concerning the social outcomes associated with the AP have deteriorated between the beginning and the end of the FAC.

Table 7.5: Dimensions of beliefs concerning attributes and outcomes associated with the AP and perceptions of the AP (total beliefs)

Time		N	Minimum	Maximum	Mean	Std. Deviation
Beginning of FAC	Extrinsic beliefs	579	1.25	4.88	3.17	.66
	Intrinsic beliefs	575	1.00	5.00	3.55	.77
	Prestige beliefs	584	1.00	4.88	3.27	.71
	Social beliefs	584	.75	3.75	2.60	.56
	Perception	566	1.27	4.70	3.37	.59
End of FAC	Extrinsic beliefs	478	1.38	5.00	3.17	.65
	Intrinsic beliefs	469	1.63	5.00	3.57	.75
	Prestige beliefs	469	1.00	4.88	3.34	.69
	Social beliefs	480	.75	3.75	2.58	.56
	Perception	444	1.53	4.77	3.38	.58

Table 7.6 presents descriptive statistics for the dimensions of students' work values. The highest ranked dimension of work values at the beginning of the FAC was the extrinsic dimension, followed by intrinsic, prestige and social. At the end of the FAC, the intrinsic dimension of work values ranked higher, followed by extrinsic, prestige and social dimension.

Table 7.6: Work values

Time		N	Minimum	Maximum	Mean	Std. Deviation
Beginning of FAC	Extrinsic WV	580	2.75	5.00	4.37	.42
	Intrinsic WV	581	2.25	5.00	4.35	.52
	Prestige WV	582	2.00	5.00	4.24	.60
	Social WV	581	1.00	5.00	3.74	.80
End of FAC	Extrinsic WV	482	2.75	5.00	4.35	.42

	Intrinsic WV	481	1.50	5.00	4.38	.54
	Prestige WV	482	1.00	5.00	4.26	.64
	Social WV	482	1.00	5.00	3.91	.73

Table 7.7 shows that at the beginning of the FAC management students indicated that they had a level of perceived control over pursuing a career in the AP above mid-point (13). It is remarkable that all the dimensions of perceived control deteriorated between the beginning and the end of the FAC. There is therefore an obvious deterioration in the score of perceived control from the beginning to the end of the FAC. (Further descriptive statistics of constructs and individual items of perceived control are presented in Appendix 7.2d).

Table 7.7: Perceived control

Time		N	Minimum	Maximum	Mean	Std. Deviation
Beginning of FAC	PC skills	585	1.00	25.00	13.64	5.45
	PC degrees	584	1.00	25.00	14.18	5.20
	PC exams	584	1.00	25.00	14.44	5.15
	Perceived Control	584	1.00	25.00	14.09	4.58
End of FAC	PC skills	485	1.00	25.00	12.80	5.57
	PC degrees	485	1.00	25.00	13.60	5.31
	PC exams	484	3.00	25.00	13.19	5.27
	Perceived Control	484	2.33	25.00	13.19	4.85

Table 7.8 shows how management students perceived the FAC at the end of the first academic semester. The mean score of the variable perception of FAC for the whole sample was 3.21 above mid-point. Students at the ATEI Athens ranked the FAC higher, followed by students at the ATEI Piraeus, ATEI Patra, ATEI Seres and ATEI Larisa. Management students at the ATEI Kozani and ATEI Chalkida indicated negative perceptions for the FAC (below mid-point).

Table 7.8: Perception of FAC

Time		N	Minimum	Maximum	Mean	Std. Deviation
End of FAC	ATEI Athens	171	1.63	5.00	3.51	.68
	ATEI Piraeus	50	1.00	5.00	3.31	.77
	ATEI Chalkida	77	1.00	4.63	2.88	.74
	ATEI Patra	39	1.28	5.00	3.22	.86
	ATEI Larisa	58	1.50	4.75	3.00	.71
	ATEI Kozani	45	1.38	4.88	2.83	.83
	ATEI Seres	22	1.75	5.00	3.09	.85
	Perception of FAC	462	1.00	5.00	3.21	.79

Table 7.9 indicates that management students ranked their accounting educators differently at the different ATEIs. The accounting educator at the ATEI Piraeus had the

highest ranking, followed by the educator at the ATEIs Athens, Kozani, Patra, Seres, Larisa and Chalkida. Students at all ATEIs ranked their accounting educators very high, above mid-point.

Table 7.9: Impression of accounting educator

Time		N	Minimum	Maximum	Mean	Std. Deviation
End of FAC	ATEI Athens	180	2.00	5.00	4.14	.47
	ATEI Piraeus	50	3.00	5.00	4.15	.43
	ATEI Chalkida	79	2.30	5.00	3.70	.54
	ATEI Patra	41	2.30	5.00	3.97	.66
	ATEI Larisa	56	1.10	5.00	3.72	.73
	ATEI Kozani	49	2.70	5.00	4.02	.56
	ATEI Seres	22	2.40	4.70	3.74	.60
	Impression of AE	477	1.10	5.00	3.97	.58

7.4 Testing the hypotheses related to the model of an ACC

Statistical hypothesis testing is simple in principle (Zar, 1999), consisting of four steps:

- Formulate a null hypothesis or an alternative hypothesis
- Identify a test statistic
- Compute the test statistic value for the sample of interest
- Accept or reject the null hypothesis, based on the distribution of the test statistic, when the null hypothesis is true

All four steps were taken into consideration while processing the analysis.

As mentioned above in Chapter 4, different hypotheses have been formulated based on the integrated theoretical framework in order to test and evaluate the new proposed theoretical model of ACC:

Hypothesis 1: Students' intention to pursue a career in the AP will be strongly predicted by their subjective norm concerning the pursuit of a career in the AP.

Hypothesis 2: Students' intention to pursue a career in the AP will be strongly predicted by their attitude towards pursuing an accounting career.

- **Hypothesis 2a:** Students' intention to pursue a career in the AP will be strongly predicted by the extrinsic dimension of their attitude towards pursuing an accounting career.
- **Hypothesis 2b:** Students' intention to pursue a career in the AP will be strongly predicted by the intrinsic dimension of their attitude towards pursuing an accounting career.

- **Hypothesis 2c:** Students' intention to pursue a career in the AP will be strongly predicted by the prestige dimension of their attitude towards pursuing an accounting career.
- **Hypothesis 2d:** Students' intention to pursue a career in the AP will be strongly predicted by the social dimension of their attitude towards pursuing an accounting career.

Hypothesis 3: Students' intention to pursue a career in the AP will be strongly predicted by their perceived control over pursuing a career in the AP.

Hypothesis 4: There are significant differences in the subjective norm concerning the pursuit of a career in the AP among students who intend and those who do not intend to pursue a career in the AP or are undecided.

Hypothesis 5: There are significant differences in the attitude towards pursuing an accounting career among students who intend and those who do not intend to pursue a career in the AP or are undecided.

- **Hypothesis 5a:** There are significant differences in the extrinsic dimension of attitude towards pursuing an accounting career among those students who intend and those who do not intend to pursue a career in the AP, or are as yet undecided.
- **Hypothesis 5b:** There are significant differences in the intrinsic dimension of attitude towards pursuing an accounting career among those students who intend and those who do not intend to pursue a career in the AP, or are as yet undecided.
- **Hypothesis 5c:** There are significant differences in the prestige dimension of attitude towards pursuing an accounting career among those students who intend and those who do not intend to pursue a career in the AP, or are as yet undecided.
- **Hypothesis 5d:** There are significant differences in the social dimension of attitude towards pursuing an accounting career among those students who intend and those who do not intend to pursue a career in the AP, or are as yet undecided.

Hypothesis 6: There are significant differences in the perceived control over pursuing a career in the AP among those students who intend and those who do not intend to pursue a career in the AP, or are as yet undecided.

In order to statistically test the above hypotheses related to the evaluation of the model of an ACC, multiple regression analysis and ANOVA were employed. Multiple regression analysis was used as the most appropriate test to explore the combined effects of various predictor variables (hypotheses 1, 2, 3). ANOVA was employed to compare three groups of students' intention to pursue a career in the AP concerning differences on their scores of subjective norm, attitude and perceived control (hypotheses 4, 5, 6).

7.5 Analysis overview

There are a number of assumptions common to multivariate statistical tests that must be met for the tests to be accurate (Pallant 2001). Before proceeding with the statistical analysis, the assumptions underlying the multivariate analysis and in particular multiple regression are presented and tested with respect to the present set of data. The conditions to be met are the following (see, e.g., Draper and Smith, 1981; Berry and Feldman, 1982; Pedhazur, 1982; Cohen and Cohen, 1983; Schroeder, Sjoquist and Stephan, 1986; Sen and Srivastava, 1990; Chatterjee and Price, 1991; Tabachnick and Fidell, 1996):

- 1) The variables must be measured at least at the interval level and there must be no error involved in their measurement.

In relation to the first part of the above assumption, the measurement of scales of variables is classified in a hierarchy based on their degree of precision. There are four levels/scales of measurement: nominal scales, ordinal scales, interval and ratio scales (Stevens, 1946). A nominal scale classifies objects into categories based on some defined characteristic. The ordinal scale classifies objects based on characteristics but also gives a logical order to the classification. Variables measured on an interval scale have all the properties of those measured on ordinal scales, plus one additional property. The differences between levels of categories on any part of the scale reflect equal differences in the characteristic measured. The highest level in the hierarchy of measurement scales is the ratio scales. This scale has one property in addition to the properties of the interval scale: a known, or true, zero point that reflects an absence of the characteristic measured. Interval/ratio levels of measurements of variables are recognized to be the highest level of measurement because there is more that can be said about them than about the other two types (Bryman and Cramer, 2001). Furthermore, Bryman and Cramer (2001) argued that variables which are derived from multiplex-

item scales are ordinal variables, not interval variables. They argued that it was not known whether the difference between a score of 4 and 5 – as an example – is the same as the difference between 1 and 2. Therefore, most of the variables in this research are ordinal variables. One of the requirements for parametric tests, mainly for regression analysis, is that the scales are of at least interval type (Stevens, 1946; Kim and Mueller, 1978). However, other authors consider that even variables which are produced by ordinal scales (that is, scales without a clearly established metric base) can be used without serious violation of the underlying assumptions (Kim and Mueller, 1978, 1994b; Asher, 1983; De Vellis, 1991). The Pearson correlation coefficient (Pearson, 1900), on which the techniques are based, is a quite robust statistic for ordinal distortions of measurement (see, e.g., Kim, 1975). Bryman and Cramer (2001) added that an inability to treat such variables as interval means that methods of analysis such as correlation and regression, which are both powerful, could not be used in relation to them since these techniques presume the employment of interval variables. Therefore, they suggested that it is useful to deal with ordinal variables as if they were interval variables. Labovitz (1970) goes further in suggesting that most ordinal variables can and should be treated as interval variables. He argues that the amount of error that can occur is minimal compared with the considerable advantages.

Therefore, it is legitimate to assume that use of multivariate techniques with attitudinal scales, such as subjective norms, attitudes towards the AP and perceived control scales is justified. In this research, the variables measured by multiplex-item scales (Likert scale) were treated as interval variables – although they are in fact ordinal variables – in order to obtain the benefit of using powerful statistical techniques.

The second part of the condition refers to the reliability and validity of the measures. Regarding reliability, in multivariate regression analysis lack of reliability in the criterion variable can lead to underestimation of the significance of the regression coefficients. Lack of reliability in the predictor variables can have unpredictable bias effects (i.e., inflation or attenuation) on the regression coefficients (see, e.g., Greene, 1978; Pedhazur, 1982; Berry and Feldman, 1985). These are issues of concern in the present study because of the employment of the regression technique, where inclusion in the final model is decided on the basis of the statistical significance of the slope coefficients. All the attitude scales employed in the present study have Cronbach alphas above .70 (except for the scale of perceived control beliefs, which is .65). Furthermore, test-retest reliabilities have supported the external reliabilities of the scales used.

Therefore, progress can be made with confidence that the reliability of the measures is not an issue of concern in the present study.

In particular, non-random measurement error (e.g., due to inadequacies of the measurement instruments) refers to the validity of the measures, and random error or “unsystematic noise” mainly refers to the reliability of the instruments (Berry and Feldman, 1985). The issue of validity is present every time that operationalization of constructs is involved (see, e.g., Nunnally, 1978; Berry and Feldman, 1985; Rust and Golombok, 1989). This issue can be dealt with only in advance with the use of valid instruments. The validity of the measures used in the present study has already been assessed in Chapter 6. It is noted, however, that Chatterjee and Price (1991) argued that the condition for no non-random error in the measurement of the variables is extremely unlikely to be satisfied.

2) There must be no strong correlation between any of the predictor variables ($r=0.9$ and above; see Berry, 1993) and independent variables should not be a combination of other independent variables (multicollinearity and singularity assumption). There is no general consensus regarding the meaning of multicollinearity for analyses using data from the “social world” (see, e.g., Pedhazur, 1982; Berry and Feldman, 1985). Following suggestions in the literature, in the present work multicollinearity is defined as the presence of “high” correlations among the predictor variables to be used in the regression analysis. However, the size of the correlation considered “high” is as yet an issue of dispute. The most serious effects of multicollinearity are the tendency of the t-ratios to be non-significant. This index will be employed in the present study; therefore, multicollinearity is an issue of potential concern.

Some authors suggest that correlation matrices derived from large sets of data are more tolerant to the negative effects of multicollinearity (Deegan, 1972; Berry and Feldman, 1985). Berry and Feldman (1985) stress that the ratio of cases to the number of predictor variables should exceed one, since otherwise multicollinearity will certainly be present. Therefore, the first step in dealing with multicollinearity is to have a sufficiently large sample size. This precaution seems to be addressed in the present data set. Apart from precautions regarding the ratios of variables to cases, a variety of techniques to test for multicollinearity have been proposed (see, e.g., Rockwell, 1975; Willan and Watts, 1978; Pedhazur, 1982; Berry and Feldman, 1985; Chatterjee and Price, 1991). Two of these techniques were used in the present study: visual inspection of the correlation coefficients and inspection of the collinearity statistics. Correlation

coefficients and collinearity statistics are generated by SPSS. The inspection was limited to the main variables in the study that were used as predictor variables in the regression analyses: subjective norms, attitudes, dimensions of attitudes and perceived control. Presence of multicollinearity among the confounding variables and/or in the correlations between confounding and main variables, though not desirable, is not considered a great danger for the validity of the conclusions. The reason for the former case is obvious, but the amount of variance the confounding variables account for and not the way they account for is of interest. Regarding the latter, multicollinearity does not impose a threat because hierarchical multiple regression will be used. The confounding variables will be included in blocks that are distinct from the blocks which will include the main variables in the study. In fact, use of hierarchical regression is a method which has been proposed to deal with multicollinearity (Harman, 1976; Chatterjee and Price, 1977).

When visually inspecting for evidence of multicollinearity, the appropriate cut-off values of the correlations are still an issue to be defined (see, e.g., Asher, 1983). Berry and Feldman (1985) suggest that for small samples a sufficient cut-off point should be a correlation coefficient size of .70, and for large samples it should be a coefficient size of .85. Tabachnick and Fidell (1989) agree, generally suggesting coefficient sizes at the .70 level. What constitutes a small and a large sample is an issue of dispute as well. As already noted, even in the smallest sub-sample to be used in the present study, the ratio of variables to cases is in the vicinity of 1 to 5. In any case, it was decided to use the .70 cut-off point for all sub-samples. The above technique, however, although it is probably the most widely used, is not flawless. It is likely that even severe multicollinearity is not reflected in the size of the correlation coefficients (see, e.g., Lewis-Beck, 1980; Berry and Feldman, 1985; Chatterjee and Price, 1991). Therefore, collinearity diagnostics were used to further test the multicollinearity assumption. Collinearity statistics are calculated by the formula $1 - R^2$ for each variable. If the value is very low (near 0), then this indicates that the multiple correlation with other variables is high, suggesting the possibility of multicollinearity. Values of tolerance (collinearity statistics) less than .100 present violation of this assumption.

3) The residuals must be normally distributed about the predicted dependent variable scores. Draper and Smith (1981) have supported the view that this assumption is usually satisfied. In addition, authors note that this assumption becomes critical only for small samples (see, e.g., Bohrnstedt and Carter, 1971; Hanushek and Jackson, 1977; Berry and Feldman, 1985). The easiest way to check whether the variables are normally

distributed is by looking at histograms and using various descriptive tests (e.g. skewness and kurtosis). The skewness value provides an indication of the symmetry of the distribution. Kurtosis on the other hand provides information about the “peakness” of the distribution. If the distribution is perfectly normal, the values of kurtosis and skewness will be close to 0. This gives a preliminary idea about whether a distribution is close enough to normality. The Kolmogorov-Smirnov statistic is another technique used to test whether a distribution is normal. This test compares the set of scores with the same mean and standard deviation. If the result is non-significant ($p > 0.05$), it means that the distribution of the sample is not significantly different from a normal distribution, which means it is probably normal. If, however, the test is significant ($p < 0.05$), then the distribution in question is significantly different from a normal distribution (i.e., it is non-normal). This is quite common in large samples (Pallant, 2000, p.58), and therefore the Kolmogorov-Smirnov statistic was not used in this research. It is important before starting the analysis of the data to identify the normality of the data, i.e., to test whether the data is normally distributed or not. However, with reasonably large samples (as in the case of this research) skewness and kurtosis will not “make a substantive difference in the analysis” (Tabachnick and Fidell, 1996, p.73). In this study, histograms and Detrended Normal Q-Q Plots were used to assess the normality of the distribution of scores. In the next sections, histograms and Detrended Normal Q-Q Plots were provided across the statistical tests used.

4) The relationship between the predictor variables and the criterion variable must be linear (linearity assumption). The linearity assumption is fundamental to the use of the general linear model. Intuitively speaking, it refers to the assumption that the “best” regression model which can describe the relationship is linear. The problem with the linearity assumption is that it is very difficult to test. Specification of a highly significant linear model does not provide certainty that the “best” descriptive model is linear. Furthermore, comparison of the linear specification with non-linear ones (e.g., including polynomial, quadratic, etc. terms) is a very difficult and laborious, if not impossible, procedure. In addition, the results of this procedure are questionable. There are an infinite number of competing models and their complexity increases dramatically as the number of predictors increase (see, e.g., Pedhazur, 1982; Berry and Feldman, 1985). A Residuals Scatterplot is a simple mean for the inspection of linearity and is generated as part of the multiple regression procedure (Pallant, 2001). It gives an indication of whether the variables are related in a linear (straight-line) or curvilinear fashion. When the residuals are roughly rectangularly distributed with most of the

scores concentrated in the centre, there is not violation of this assumption (Tabachnick and Fidell, 1996).

5) The variance of the error term (residuals) must be constant across sets of values for the independent variables (homoscedasticity assumption). When this condition is not fulfilled, heteroscedasticity is present. Presence of heteroscedasticity can lead to bias in the estimations of the statistical significance of the regression coefficients. Heteroscedasticity is mostly a potential problem when cross-sectional types of data are analysed (Schroeder et al., 1986). Therefore, it is clear that heteroscedasticity can be an issue in the present study.

Heteroscedasticity can be caused by a number of factors (Tabachnick and Fidell, 2001). One factor can be measurement errors in the dependent variable. The issue of measurement error has already been addressed. Heteroscedasticity is also likely to be the result of the interaction between one or more of the predictor variables and one or more variables not included in the model (Berry and Feldman, 1985; Jaccard, Turrisi and Wan, 1990). This point relates to the specification of the type of the regression model, and the linearity assumption.

In any case, however, heteroscedasticity does not have any negative effects on the tests of statistical significance, unless it is severe (Bohrnstedt and Carter, 1971). It is difficult to determine what constitutes a “severe” case of heteroscedasticity. As a means for investigating for the presence of heteroscedasticity, authors recommend visual inspection of the plots of the standardized regression residuals against the standardized predicted values of the criterion variables (Chatterjee and Price, 1991; Tabachnick and Fidell, 1996; Pallant, 2001). In the next sections, residuals scatter plots are provided across the statistical tests used.

6) Outliers are cases with extreme values occurring within discrete or continuous variables, either on a single variable (univariate outlier) or on a combination of scores on two or more variables (multivariate outlier) (Tilley, 1993). Tabachnick and Fidell (2001) define outliers as cases that have a standardised residual (as displayed in the scatter plot) of more than 3.3 or less than -3.3. Outliers are an invasive problem in statistical analysis and potentially lead to both Type I and Type II errors (Tabachnick and Fidell, 1996). The cause of outliers could be related to incorrect data entry, failure to specify missing value codes, and the outlier not being a member of the intended population but with a more extreme value on the variable in comparison to the normal distribution for the population (Tabachnick and Fidell, 1996). As a rule of thumb, 95% of standardized residuals should lie within ± 3 (Hair et al., 1998).

7) There must be no correlation between the error terms across observations (the assumption of no autocorrelation). Autocorrelation has effects similar to those of heteroscedasticity (i.e., bias in the estimations of statistical significance of the regression coefficients) (see, e.g., Chatterjee and Price, 1991; Schroeder et al., 1986). The presence of autocorrelation, however, is most likely to be found in cases where time-series data are used (i.e., multiple observations at successive points in time) (see, e.g., Ostrom, 1978; Schroeder, et al., 1986; Chatterjee and Price, 1991; Draper and Smith, 1991). The presence of autocorrelation will be checked by the Durbin-Watson statistic test. There is no violation of the autocorrelation assumption when the Durbin-Watson statistic test score is around 2000 and no lower than 1500.

8) The mean of the error term must be zero (to be mathematically precise, it must tend to be zero as the number of replications tends to become infinite). This condition concerns only the value of the intercept, thus this assumption is of concern only when the estimation of the intercept is of importance (see, e.g., Berry and Feldman, 1985). This is not the case in the present study.

7.6 Regression analysis: Testing the model of an ACC

The data from this research is comprised of three main predictor variables: subjective norm, attitude and perceived control, and four sub-predictor variables: extrinsic, intrinsic, prestige and social dimension of attitude. Any or all of these predictors and sub-predictors may influence the criterion variable, which is the intention to pursue a career in the AP. The relationship between these variables was investigated by standard and stepwise multiple regression at the beginning of the FAC and by a hierarchical stepwise regression at the end of the FAC, controlling for confounding variables – perception of the FAC and impression of accounting educator.

Multiple linear regression might be regarded as an extension of simple linear regression when more than one independent variable is included in the regression model, as in this study. Regression techniques can be applied to a data set in which the independent variables are correlated with one another and with the dependent variable to varying degrees (Hair et al., 1998). For each individual there is information on its values for the criterion variable y , and each independent variable k ($x_1, x_2, x_3, \dots, x_k$). Frequently, focus is centred on determining whether a particular independent variable, x_1 , has a significant effect on y after adjusting for the effects of the other independent variables. Moreover, it is also possible to assess the combined effect of these k

independent variables on the y dependent variable by formulating an appropriate model, which can then be used to predict values of y for a particular combination of independent variables (Hair et al., 1998). The general equation for the linear multiple regression analysis takes the following form:

$$Y = a + b_1x_1 + b_2x_2 + b_3x_3 + \dots + b_kx_k + e$$

Where:

Y = predicted value of the dependent variable

a = value of the dependent variable when all of the independent variables are zero, that is, the Y intercept.

b_i = regression coefficients

x_i = independent variables

e = error term which points to the fact that a proportion of the variance in the dependent variable Y is unexplained by the regression equation. The error term is ignored since it is not used for making predictions.

The relative importance of the predictor variables in the regression equation was assessed by means of the size of the standardized regression coefficient beta (β). The use of the standardized regression coefficients as a means for discussing the relative importance of the predictors is universally accepted in the literature. Authors, however, call for caution when comparisons of β values are made (see, e.g., Challenger, 1973; Achen, 1982; Pedhazur, 1982). One of the reasons is that β values are affected by the variability of the relevant variables, whilst unstandardized regression coefficients are not. Nonetheless, it is considered inappropriate to use unstandardized regression coefficients in cases where the scales of measurement (e.g., attitude scales) are not uniform or do not have a direct empirical analogue of their meaning (see, e.g., Schooler and Schoenbach, 1994). Furthermore, the pattern of relationships, hence the relative and not the absolute effect sizes, is the point of interest in the present study. The adjusted values for the coefficient of multiple determination R^2 (Wonnacott and Wonnacott, 1979) will be reported. This is because for relatively small sample sizes, R^2 values tend to be inflated. The adjusted R^2 takes into account the increase in the number of predictors in the equation (see, e.g., Wonnacott and Wonnacott, 1979; Berry and Feldman, 1985; Schroeder et al., 1986). Therefore, the adjusted R^2 can provide a better estimation of the actual increase in the amount of variance accounted for when a new variable (or block of variables) enters the regression equation. Achen (1982)

recommends use of the adjusted R^2 when we have sample sizes below 200. Furthermore, the adjusted R^2 is especially recommended when the stepwise procedure is used (see, e.g., Cooley and Lohnes, 1971; Montgomery and Morrison, 1973; McIntyre, et al., 1983). The main reason for performing the regression analysis is to examine which of the predictor variables makes the strongest unique contribution to explaining the dependent variable when the variance explained by all other variables in the model is controlled for.

Generating a multiple regression analysis from SPSS includes an analysis of variance (ANOVA) table. This is used to assess whether at least one of the independent variables has a significant linear relationship with the dependent variable. The null hypothesis is that all the partial regression coefficients in the model are zero. The ANOVA table divides the total variance of the dependent variable, y , into two components: the relationship of y with all the x 's, and the residual variance. These two variances are compared in the table by calculating their ratio, which follows the F-test in order that a p value can be determined. If $p < 0.050$, it is unlikely that the null hypothesis is true (Field, 2000).

When the result of the F-test from the analysis of the variance table is significant (i.e. $\text{sig} < 0.000$, this really means $p < 0.005$), indicating that at least one of the independent variables is separately associated with the effect variable, it is essential to establish which of the variables is a useful predictor of effect. Each of the regression coefficients in the model can be tested (the null hypothesis is that the true coefficient is zero in the population) using a test statistic which follows the t-distribution with $n - d - 1$ degrees of freedom, where n is the sample size and d is the number of independent variables in the model. This test is the ratio of the estimated coefficient to its standard error (Field, 2000). The SPSS output of multiple regression analysis contains a table which typically shows the constant term and estimated partial regression coefficients with their standard errors, the test statistic for each coefficient and the resulting p value. From this information, the multiple regression equation can be formulated and a decision made as to which of the independent variables is significantly separately associated with the result.

7.6.1 Testing the model of an ACC: Beginning of the FAC

Standard and stepwise multiple regression was employed in order to test the ACC model at the beginning of the FAC. Standard multiple regression is the most commonly used multiple regression analysis. It assesses relationships among variables and answers the

basic question of multiple correlations (model testing procedure) (Tabachnick and Fidell, 2001). In this type of regression all the independent (predictor) variables are entered into the equation simultaneously. Each independent variable is evaluated in terms of its predictive power, over and above that offered by all the other independent variables. This study, using standard regression, has regressed intention against the three main predictor variables which are proxies for subjective norms, attitudes and perceived control according to the theory of planned behaviour (Fishbein and Ajzen, 1975; Ajzen, 1991).

After the model of ACC has been tested as a whole with standard regression, there was a need to identify the specific dimension of attitude that predicts the intention to pursue a career in the AP. The general goal of regression is to identify the fewest independent variables to predict the criterion variable where each independent variable predicts a substantial and independent segment of the variability in the criterion variable (Tabachnick and Fidell, 2001).

Stepwise (statistical) regression was employed to identify the dimensions of attitudes (sub-predictor) that contribute to the prediction of intention and to build the final model. Stepwise regression is used to develop a subset of independent variables that is useful in predicting the dependent variable and to eliminate those variables that do not provide additional prediction to the independent variables already in equation (Tabachnick and Fidell, 2001). Statistical regression is a model-building rather than model-testing procedure. This study, using stepwise regression, has regressed intention against the two main predictor variables subjective norms and perceived control and against the sub-predictor variables extrinsic, intrinsic, prestige and social dimension of attitudes. From the stepwise analysis, the main predictor variable attitude has been excluded due to singularity problems.

Prior to both regression analyses, the data were tested to see if they fulfilled the assumptions of multiple regression (see Section 7.5).

7.6.1.1 Standard regression analysis: Intention against the main predictors

A standard multiple regression was performed between intention to pursue a career in the AP as the dependent variable and the subjective norms, attitudes and perceived control as independent variables. Analysis was performed using SPSS REGRESSION and SPSS EXPLORE for evaluation of assumptions.

Multicollinearity

The multicollinearity assumption was tested with the correlation matrix and with “Tolerance” and “Variance Inflation Factor” (VIF). Those statistics were obtained through regression analysis; SPSS performs “collinearity diagnostics” on the predictor and criterion variables as part of the multiple regression programs. The relationship between predictor and criterion variables must be above 0.3 at least (Pallant, 2001). The bivariate correlation between each of the predictor variables must be less than 0.7 (Tabachnick and Fidell, 1996). Table 7.10 shows that the correlation between independent variables is not bigger than 0.52, which as it is less than 0.70, all variables were retained. Furthermore, the correlation between dependent and independent variables is between 0.49 and 0.56 above the cut-off point of 0.30 (Pallant, 2001).

Table 7.10: Intercorrelation matrix (standard regression) at beginning of FAC

Variables	Intention	Subjective Norm	Attitude	Perceived Control
Intention	—			
Subjective Norm	.513	—		
Attitude	.487	.464	—	
Perceived Control	.559	.346	.519	—

Note: All correlations are significant at $p < 0.000$.

Low tolerance means a high degree of multicollinearity among the corresponding variables. However, when the VIF is the inverse (reciprocal) of the tolerance, large values indicate a high degree of multicollinearity. By rule of thumb a tolerance value of less than 0.10, or a VIF value of more than 10.0, is regarded as evidence of statistically significant multicollinearity (Hair, et al., 1998). Table 7.11 shows that tolerance values were not less than the cut-off level of 0.10 and that VIF values did not exceed 10.0.

Table 7.11: Collinearity statistics (standard regression) at beginning of FAC

Predictor Variables	Tolerance	VIF
Subjective Norm	.770	1.299
Attitude	.638	1.566
Perceived Control	.716	1.396

Criterion variable: Intention towards pursuing a career in the AP

Visual inspection of the correlation matrix and the scores of tolerance and VIF confirmed that multicollinearity among the variables is not an issue of concern in the present regression analysis.

Normality, Linearity, Homoscedasticity

In order to investigate the normality, linearity and homoscedasticity assumptions histogram, the plot of standardized residuals against predicted values of the dependent variable and scatter plot is provided in Figures 7.1, 7.2 and 7.3. All these figures are provided by SPSS as part of the multiple regression analysis.

Figure 7.1 provides a clearer picture of the shape of the distribution. The bell-shaped histogram approximates to the normal distribution; it is approximately symmetrical and there is not much kurtosis. Normality was not assessed by obtaining skewness and kurtosis values as Tabachnick and Fidell (1996) supported by saying that with reasonably large samples (200+ cases), skewness and kurtosis will not “make a substantive difference in the analysis” and the risk is reduced.

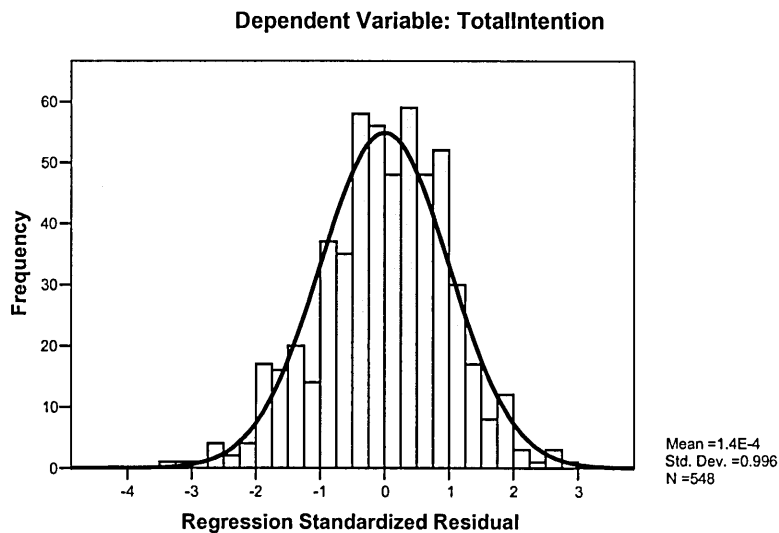


Figure 7.1: Histogram of standard regression

Moreover, points clustered around a straight line in a probability plot support the normality assumption of residuals, as shown in Figure 7.2. As shown in Figures 7.1 and 7.2, the histogram was bell-shaped and approximately symmetrical and all points in the normal P-P plots were in a reasonably straight diagonal line from bottom left to top right. These results confirm a normal distribution of errors in testing the model.

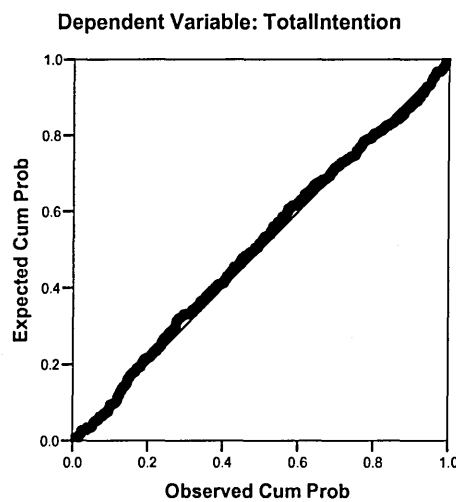


Figure 7.2: Normal P-P plot of standard regression standardized residual

The scatter plot of standardized residuals in Figure 7.3 shows that they are roughly rectangularly distributed, with most of the scores concentrated in the centre along the 0 point (Pallant, 2001). A rule of thumb is that if the residuals are randomly and evenly dispersed throughout the scatter plot, assumptions of linearity are met (Hair et al., 1998). Therefore, the assumptions of normality, linearity and homoscedasticity have not been violated in this statistical analysis.

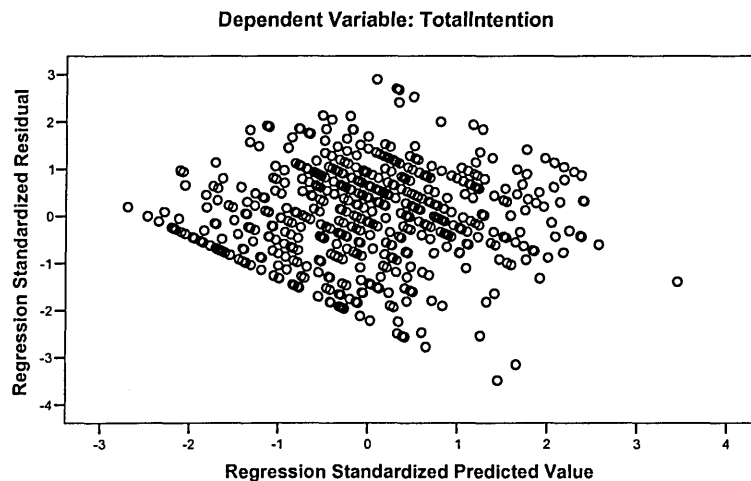


Figure 7.3: Scatterplot of standardized residual in standard regression

Outliers test and Autocorrelation

As shown in Table 7.12, the analysis of standardized residuals among independent variables and the intention variable revealed that only two cases (0.4% of the total sample) were outside of ± 3 . As Pallant (2001) suggested, with a large sample and only a few cases as outliers, it is not necessary to take any action.

Table 7.12: Casewise Diagnostics of standard regression – Beginning of FAC

Beginning of the FAC	Case Number	Std. Residual	Intention	Predicted Value	Residual
	372	-3.153	1.40	3.8407	-2.44068
	376	-3.488	1.00	3.7002	-2.70024

Dependent Variable: Intention

Concerning autocorrelation, Table 7.13 shows that the Durbin-Watson test for the sample is 1.951, and therefore autocorrelation is not an issue in the present analysis.

7.6.1.1.2 Evaluating the model

The regression analysis yielded coefficients for the constant (a) and a combination of intention-related constructs (b's) to give the best response prediction. Table 7.13 summarizes the model's independent variables ability to predict management students' intention to pursue a career in the AP. The R value is 0.665, which indicates that there is a large correlation between the predictor variables, all lumped together into one model. This model can explain 44% of the variances in students' intention to pursue a career in the AP, in the present sample ($R^2=.442$), and for 43.9% in the population (Adjusted $R^2=.439$).

Table 7.13: Model Summary of standard regression – Beginning of FAC

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.665	.442	.439	.77405	1.951

Predictors: (Constant), SN, Attitude, PC

Dependent Variable: Intention

The output obtained from the SPSS analysis also helped formulate a variance table (Table 7.14). The *F*-ratio obtained from this table equals 144.313, with 3 degrees of freedom in the numerator and 546 degrees of freedom in the denominator. The associated *p*-values, $p<0.001$, indicate that there is substantial evidence to reject the null hypothesis that all the partial regression coefficients are equal to zero.

Table 7.14: Analysis of variance (ANOVA) in standard regression – Beginning of FAC

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	259.394	3	86.465	144.313	.000
	Residual	327.134	546	.599		
	Total	586.528	549			

Predictors: Constant), SN, Attitude, PC

Dependent Variable: Intention

ANOVA revealed that the overall model, including all three main predictors – subjective norms, attitudes and perceived control – is a significant predictor of the intention to pursue a career in the AP.

7.6.1.1.3 Evaluating each of the independent variables

It can be seen from Table 7.15 which of the predictor variables individually contributes to the prediction of intention by looking at each of the individual *t*-tests. Thus it can be seen that all variables are significant predictors. However, in order to compare the strength of each predictor variable in the model it is important to use the standardized coefficients (beta), not the unstandardized ones. “Standardized” means that the values for each of the different variables have been converted to the same scale so they are comparable (Field, 2000). The beta weight indicated that perceived control was the strongest predictor ($\beta = .374, p < 0.000$), followed by subjective norm ($\beta = .316, p < 0.000$) and attitude ($\beta = .146, p < 0.000$).

Table 7.15: Coefficients results of standard regression analysis – Beginning of FAC

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		β	Std Error	Beta		P-values
1	(Constant)	.156	.151		1.036	.301
	Subjective Norm	.071	.008	.316	8.665	.000
	Attitude	.047	.013	.146	3.653	.000
	Perceived Control	.084	.009	.374	9.910	.000

Dependent Variable: Intention

Based on the above results, the hypotheses H1, H2, H3 are supported for the beginning of the FAC.

7.6.1.2 Stepwise regression analysis: Intention against the sub-predictors

A stepwise multiple regression was performed between intention to pursue a career in the AP as the dependent variable and the subjective norm, perceived control and the intrinsic, extrinsic, prestige and social dimensions of attitude as independent variables. Analysis was performed using SPSS REGRESSION and SPSS EXPLORE for the evaluation of assumptions. The results of the evaluation of assumptions showed that none of the assumptions of regression was violated.

7.6.1.2.1 Testing the assumptions

Multicollinearity

The multicollinearity assumption was tested with the intracorrelation matrix and with the “Tolerance” and “Variance Inflation Factor” (VIF). Those statistics were obtained

through regression analysis. Pearson correlation coefficients are presented in Table 7.16, and they are in accordance with the suggestions by Pallant (2001) and Tabachnick and Fidell (1996).

Table 7.16: Intercorrelation matrix – Stepwise regression – Beginning of FAC

	Intention	SN	Extrinsic	Intrinsic	Prestige	Social	PC
Intention	—						
SN	.513	—					
Extrinsic Dim	.342	.379	—				
Intrinsic Dim	.574	.438	.499	—			
Prestige Dim	.314	.344	.604	.518	—		
Social Dim	.321	.303	.390	.609	.473	—	
PC	.559	.346	.317	.555	.409	.378	—

Note: All correlations are significant at $p < 0.000$.

Furthermore, Table 7.17 shows that tolerance values were not less than the cut-off level, and that 0.10 and VIF values did not exceed 10.0.

Table 7.17: Collinearity statistics – Stepwise regression – Beginning of FAC

Predictor Variables	Tolerance	VIF
Subjective Norm	.759	1.317
Extrinsic Dimension	.572	1.748
Intrinsic Dimension	.438	2.284
Prestige Dimension	.536	1.866
Social Dimension	.595	1.681
Perceived Control	.661	1.512

Criterion variable: Intention to pursue a career in the AP.

The results of the visual inspection of the correlation matrix and the scores of Tolerance and VIF confirmed that multicollinearity among the variables was not a problem.

Normality, Linearity, Homoscedasticity

Histogram, the plot of standardized residuals against predicted values of the dependent variable and scatter plot were used in order to test the normality, linearity and homoscedasticity assumptions of stepwise regression analysis (Figures 7.4, 7.5 and 7.6).

Figure 7.4 provides a clearer picture of the normal shape of the distribution.

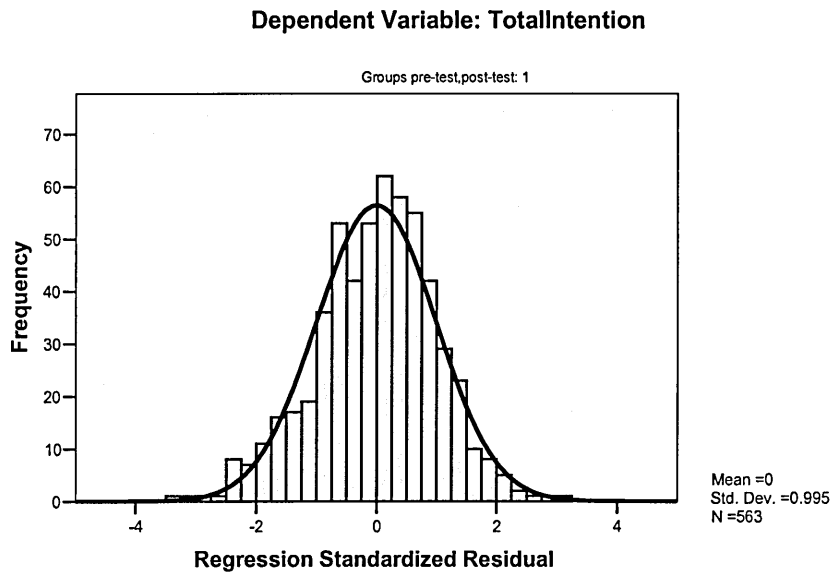


Figure 7.4: Histogram of stepwise regression

Moreover, points clustered around a straight line in the probability plot support the normality assumption, as shown in Figure 7.5.

Normal P-P Plot of Regression Standardized Residual

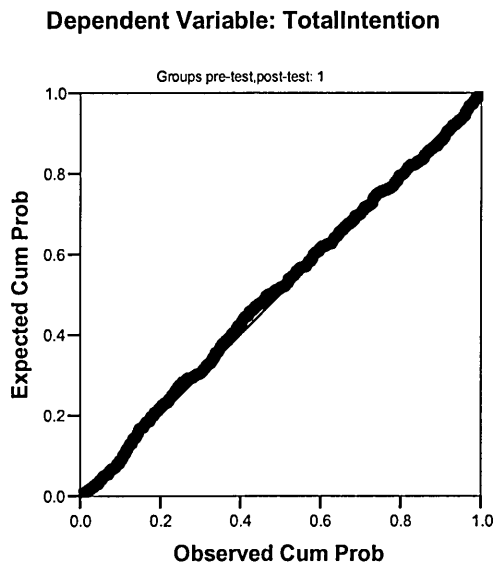


Figure 7.5: Normal P-P plot of stepwise regression standardized residual

Figure 7.6 shows that the standardised residuals in the scatterplot are roughly rectangularly distributed and most of the scores concentrated in the centre along the 0 point (Pallant, 2001).

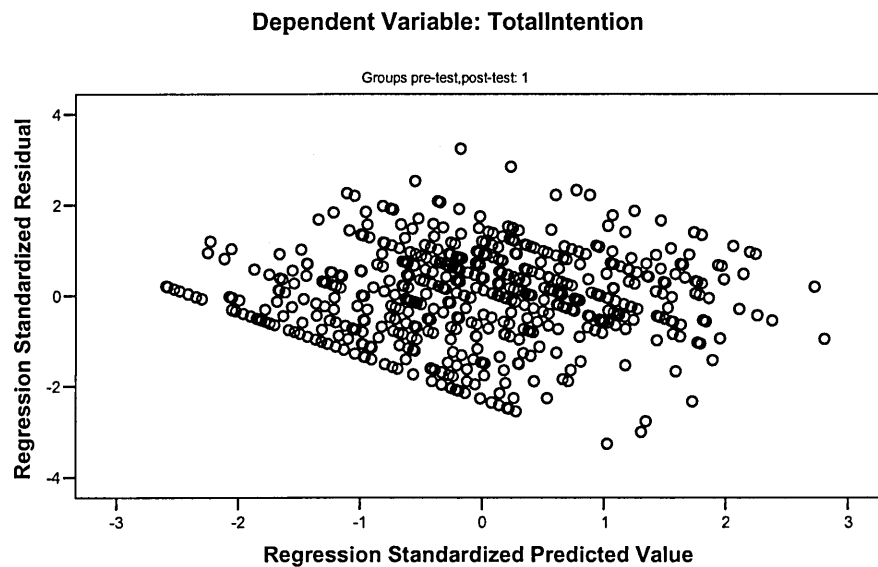


Figure 7.6: Scatterplot of standard regression

Visual inspection of the histogram, normal P-P plot and residuals scatter plot, as recommended by Pedhazur (1982) and Tabachnick and Fidell (2001), following the relevant guidelines for normality, linearity and heteroscedasticity signs (Pedhazur, 1982; Tabachnick and Fidell, 2001), did not give the impression that normality, linearity and homoscedasticity assumptions were violated in the present analysis.

Outliers test and autocorrelation

Table 7.18 indicates that only three cases (0.6 % of the total sample) were outside of ± 3 , and therefore no action was taken.

Table 7.18: Casewise Diagnostics – Stepwise regression – Beginning of FAC

Beginning of FAC	Case Number	Std. Residual	Intention	Predicted Value	Residual
	361	3.243	5.00	2.5776	2.42236
	372	-3.002	1.40	3.6426	-2.24258
	376	-3.268	1.00	3.4409	-2.44093

Dependent Variable: Intention

Table 7.19 shows that the Durbin-Watson test for the sample is 1.938, and therefore autocorrelation is not an issue in the stepwise regression.

7.6.1.2.2 Evaluating the model

Table 7.19 displays the final model's (model 4) independent variables ability. R value is 0.694, which indicates that there is a large correlation between the predictor variables subjective norm, perceived control and the sub-predictors intrinsic and prestige dimension of attitude.

This model can explain 49% of the variances in students' intention to pursue a career in the AP in the sample ($R^2=.481$), and for 47.8% in the population (Adjusted $R^2=.478$).

Table 7.19: Model Summary – Stepwise regression – Beginning of FAC

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.574	.329	.328	.84716	
2	.643	.414	.412	.79271	
3	.691	.477	.475	.74927	
4	.694(d)	.481	.478	.74695	1.938

Predictors: (Constant), Intrinsic Dimension, SN, PC, Prestige Dimension

The output obtained from the SPSS analysis also helped formulate a variance table (Table 7.20). The F -ratio obtained from this table equals 128.847, with 4 degrees of freedom in the numerator and 555 degrees of freedom in the denominator. The associated p -values, $p < 0.001$, indicate that there is substantial evidence to reject the null hypothesis that all the partial regression coefficients are equal to zero.

Table 7.20: ANOVA in stepwise regression – Beginning of FAC

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	196.749	1	196.749	274.148	.000
	Residual	400.463	558	.718		
	Total	597.212	559			
2	Regression	247.200	2	123.600	196.694	.000
	Residual	350.012	557	.628		
	Total	597.212	559			
3	Regression	285.070	3	95.023	169.259	.000
	Residual	312.142	556	.561		
	Total	597.212	559			
4	Regression	287.555	4	71.889	128.847	.000
	Residual	309.657	555	.558		
	Total	597.212	559			

Predictors: (Constant), Intrinsic Dimension

Predictors: (Constant), Intrinsic Dimension, SN

Predictors: (Constant), Intrinsic Dimension, SN, PC

Predictors: (Constant), Intrinsic Dimension, SN, PC, Prestige Dimension

7.6.1.2.3 Evaluating each of the independent variables

ANOVA revealed that the overall model, including only four variables – intrinsic dimension, subjective norm, perceived control and prestige dimension – is a significant predictor of intention to pursue a career in the AP. Table 7.21 reveals the independent variables which individually contribute to the prediction of intention by looking at each of the individual t -tests. Thus it can be seen that only four variables are significant

predictors. The beta weight indicated that intrinsic dimension was the strongest predictor ($\beta = 0.332$, $p < 0.000$) followed by perceived control ($\beta = 0.321$, $p < 0.000$), subjective norms ($\beta = 0.289$, $p < 0.000$) and prestige dimension ($\beta = -0.082$, $p < 0.05$).

Table 7.21: Coefficients in stepwise regression – Beginning of FAC

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		β	Std. Error	beta		
1	(Constant)	.516	.137		3.769	.000
	Intrinsic Dim	.141	.009	.574	16.557	.000
2	(Constant)	.337	.130		2.599	.010
	Intrinsic Dim	.106	.009	.432	11.983	.000
	SN	.073	.008	.323	8.960	.000
3	(Constant)	.033	.128		.258	.796
	Intrinsic Dim	.069	.010	.280	7.199	.000
	SN	.064	.008	.285	8.266	.000
	PC	.069	.008	.306	8.213	.000
4	(Constant)	.139	.137		1.012	.312
	Intrinsic Dim	.076	.010	.309	7.511	.000
	SN	.066	.008	.294	8.498	.000
	PC	.072	.008	.318	8.464	.000
	Prestige Dim	-.020	.009	-.077	-2.110	.035

Dependent Variable: Intention

As the study is based on a very large and representative sample of Greek management students, the above results of stepwise regression were very clear and interpretable. Subjective norm and perceived control are significant predictors of intention as identified from the standard regression. Therefore, hypotheses H1 and H3 were supported.

The intrinsic dimension of attitude made a significant contribution to the total amount of variance accounted for in scores on intention, therefore, H2b was fully supported. The prestige dimension made a marginally significant contribution to the total amount of variance accounted for in scores on intention, therefore, H2c was marginally supported. The variables extrinsic and social dimensions of attitude did not make a significant contribution to the total amount of variance accounted for in scores on intention. The hypotheses H2a and H2d were thus not supported. Therefore, from the four dimensions of attitude the extrinsic and social dimensions are excluded from the regression equation as they do not contribute a “useful” amount of explanation.

Incorporating the unstandardized coefficients values for the predictor variables listed as β in the above Table 7.21 into an equation gives the following estimated multiple regression model of intention to pursue a career in the AP at beginning of the FAC:

Intention to pursue a career in the AP = 0.139 +0.066 subjective norm +.0.076 intrinsic dimension of attitudes -0.020 prestige dimension of attitudes +0.072 perceived control

7.6.2 Testing the model of an ACC: End of the FAC

In order to evaluate further the model of an ACC (longitudinal design) and to test the relevant hypotheses, hierarchical multiple regression was employed using the data set at the end of the FAC. The decision to employ hierarchical regression has been affected by previous accounting education research. Accounting researchers have supported the view that both the accounting educator and perceptions of the FAC influence the ACC. Therefore, at the end of the FAC, students' intention has possibly been influenced by their perception of the FAC and their impression of the accounting educator. Hence, there is a need to control the effect of these two variables on the criterion variable using hierarchical multiple regression. Variables or sets of variables are entered into the equation in steps (or blocks) with each independent variable being assessed in terms of what it adds to the prediction of the dependent variable, after the previous variables are controlled for (Pallant, 2001). In hierarchical regression analysis there is the need to test for the significance of the increment in variance that is brought by each new block of variables over the previous blocks (Field, 2000). Once all sets of control and predictor variables are entered, the overall model is assessed in terms of its ability to predict the criterion variable. The relative contribution of each block of variables is also assessed.

Prior to multiple regression analysis, the data were tested to see if they met the above mentioned assumptions (see Section 7.5).

7.6.2.1 Hierarchical regression analysis

Hierarchical regression was employed to control if the addition of the FAC and accounting educator variables improved the prediction of intention at the end of the FAC, beyond that afforded by the constructs of the ACC. In the present analysis, Step 1 included the confounding variables: accounting educator and FAC. Step 2 included perceived control and utilized the stepwise procedure for the variable selection with entry and removal points set equal at 0.050 (Draper and Smith, 1981).

Multicollinearity

The multicollinearity assumption was tested with the correlation matrix and with the “Tolerance” and “Variance Inflation Factor” (VIF). Those statistics were obtained through SPSS regression analysis. Table 7.22 indicates that the intercorrelation between dependent and independent variables are above 0.3, and the correlations between independent variables are not higher than 0.61.

Table 7.22: Intercorrelation matrix – Hierarchical regression – End of FAC

Variables	Intention	Educator	FAC	SN	Extrinsic Dim	Intrinsic Dim	Prestige Dim	Social Dim	PC
Intention	—								
Educator	.347	—							
FAC	.513	.562	—						
SN	.562	.310	.292	—					
Extrinsic Dim	.320	.252	.225	.398	—				
Intrinsic Dim	.557	.449	.422	.470	.448	—			
Prestige Dim	.387	.323	.301	.342	.505	.548	—		
Social Dim	.302	.305	.208	.369	.387	.607	.472	—	
PC	.668	.430	.606	.395	.350	.524	.446	.258	—

Note: All correlations are significant at $p < 0.000$.

Table 7.23 shows that tolerance values were not less than the cut-off level, 0.10, and that VIF values did not exceed 10.0.

Table 7.23: Collinearity statistics – Hierarchical regression – End of FAC

Predictor Variables	Tolerance	VIF
Subjective Norm	.707	1.415
Extrinsic Dimension	.665	1.504
Intrinsic Dimension	.407	2.460
Prestige Dimension	.575	1.739
Social Dimension	.545	1.836
Perceived Control	.498	2.008
FAC	.616	1.624

Criterion variable: Intention

The results of the visual inspection of the correlation matrix and the scores of Tolerance and VIF confirmed that the strength of the independent variables relationships were far below levels that raise multicollinearity and singularity concerns (Tabachnick and Fidell, 1996; Pallant, 2001).

Normality, Linearity, Homoscedasticity

In order to investigate the normality, linearity and homoscedasticity assumptions histogram, the plot of standardized residuals against predicted variables of the dependent

variable and scatter plot is provided in Figures 7.7, 7.8 and 7.9. It was obvious from the visual inspection of the diagrams that the residuals did not violate the assumption of normality, linearity and homoscedasticity in this analysis.

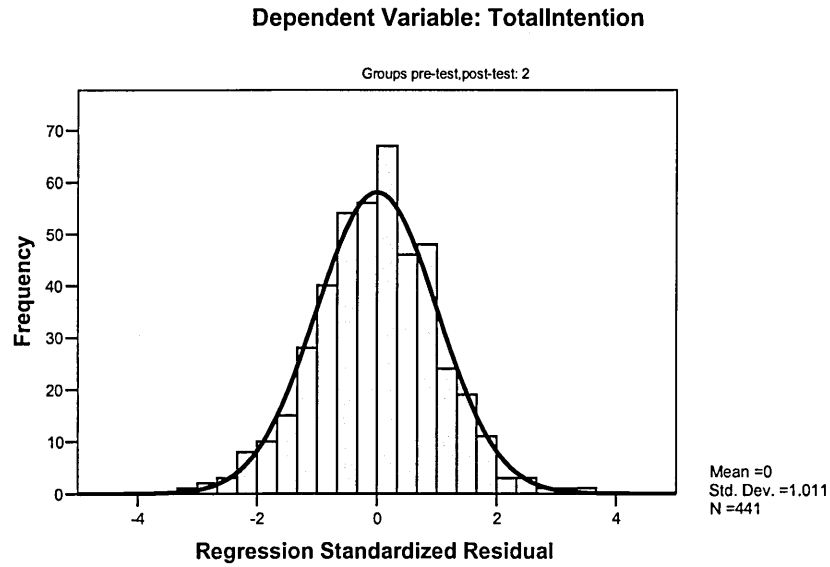


Figure 7.7: Histogram of hierarchical regression

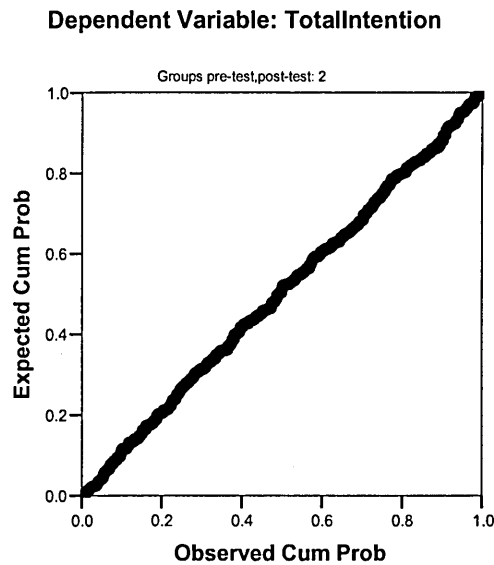


Figure 7.8: Normal P-P plot of hierarchical regression standardized residual

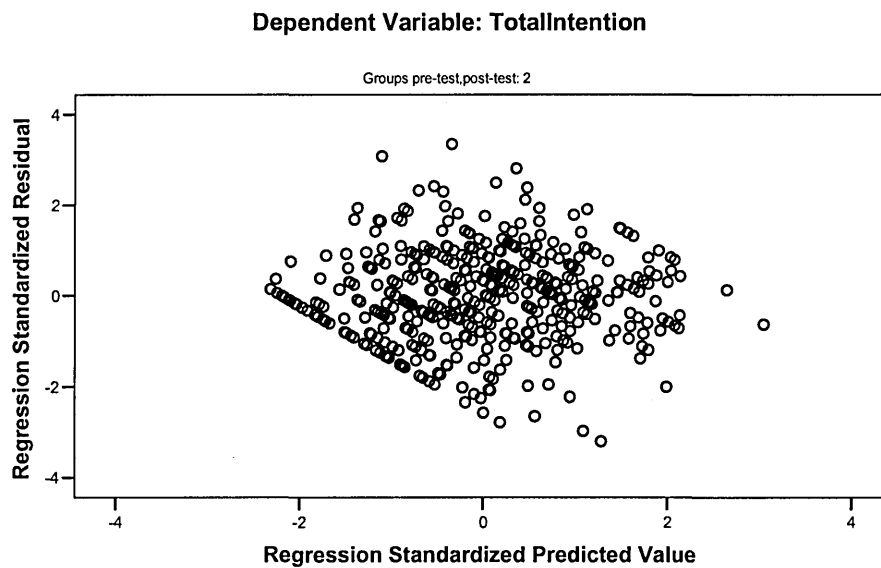


Figure 7.9 Scatterplot of hierarchical regression

Outliers test and autocorrelation

As shown in Table 7.24, the analysis of standardized residuals among independent variables and the intention variable revealed that only three cases (0.6% of the total sample) were outside of ± 3 , and thus no any action has been taken.

Table 7.24: Casewise Diagnostics – Hierarchical regression – End of FAC

End of FAC	Case Number	Std. Residual	Intention	Predicted Value	Residual
	653	3.348	4.80	2.4908	2.30923
	878	3.082	4.00	1.8745	2.12546
	927	-3.203	1.60	3.8091	-2.20909

Dependent Variable: Intention

Table 7.25 shows that the Durbin-Watson test for the sample is 1.898; therefore autocorrelation is not an issue in the present study.

7.6.2.1.2 Evaluating the model

The hierarchical regression analysis yielded four models with the independent variables that contribute to the prediction of intention. R was significantly different from zero at the end of each step. After Step 2, with all independent variables in the equation, R^2 was .581. The R value is 0.762 and the adjusted R^2 value of .581 indicates that more than half of the variability of students' intention to pursue a career in the AP is predicted by students' perception of the FAC, perceived control, subjective norm and intrinsic dimension of attitude in the sample and in the population. Table 7.25 summarizes the models' independent variables ability to predict intention.

Table 7.25: Models Summary – Hierarchical regression – End of FAC

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson
1	.513	.263	.261	.91130	
2	.682	.465	.462	.77743	
3	.751	.564	.561	.70212	
4	.762	.581	.577	.68964	1.898

Predictors: (Constant) FAC, PC, SN, Intrinsic Dimension

Dependent Variable: Intention

The full regression models are presented in Table 7.26. After Step 1, with the impression of the accounting educator and the perception of FAC in the equation, only the confounding variable perception of FAC significantly added to the total amount of variance accounted for students' intention $R^2 = 0.261$, $F(1, 442) = 157.64$, $p < 0.001$ and ($\beta = 0.51$, $t = 12.56$, $p < 0.05$). After Step 2, with all the constructs of the ACC added to the prediction of intention, the only constructs to survive the stepwise procedure were perceived control, subjective norm and the intrinsic dimension of attitude. At the end of Step 2, ANOVA revealed that the overall model with four predictor variables has an F-ratio equal to 152.009 with 4 degrees of freedom in the numerator and 439 degrees of freedom in the denominator and $p < 0.001$.

Table 7.26: ANOVA – Hierarchical regression – End of FAC

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	130.913	1	130.913	157.640	.000
	Residual	367.064	442	.830		
	Total	497.977	443			
2	Regression	231.440	2	115.720	191.464	.000
	Residual	266.537	441	.604		
	Total	497.977	443			
3	Regression	281.068	3	93.689	190.048	.000
	Residual	216.909	440	.493		
	Total	497.977	443			
4	Regression	289.186	4	72.296	152.009	.000
	Residual	208.792	439	.476		
	Total	497.977	443			

Predictors: (Constant), FAC, PC, SN, Intrinsic Dimension

Dependent Variable: Intention

7.6.2.1.3 Evaluating each of the independent variable

In order to compare the strength of each predictor variable in the final model, the absolute values of a standard coefficient (beta) were taken from Table 7.27 as suggested by Field (2000). The beta weight indicated that perceived control was the strongest predictor ($b = .394$, $t = 9.30$, $p < 0.000$), followed by subjective norm ($b = .296$, $t = 8.28$,

$p<0.000$), then intrinsic dimension of attitude ($b=.161$, $t=4.13$, $p<0.000$) and finally the perception of FAC ($b=.119$, $t= 3.04$, $p<0.003$). The variables extrinsic, prestige and social dimension of attitude and image of accounting educator are excluded from the model as they did not add to the prediction of intention.

Table 7.27: Coefficients of hierarchical regression – End of FAC

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		β	Std. Error	beta		
1	(Constant)	.552	.182		3.037	.003
	FAC	.690	.055	.513	12.555	.000
2	(Constant)	.403	.156		2.589	.010
	PC	.123	.010	.565	12.897	.000
	FAC	.230	.059	.171	3.896	.000
3	(Constant)	.007	.146		.050	.960
	SN	.079	.008	.345	10.033	.000
	PC	.097	.009	.446	10.801	.000
	FAC	.191	.053	.142	3.577	.000
4	(Constant)	-.241	.155		-1.548	.122
	Intrinsic Dim	.039	.009	.161	4.131	.000
	SN	.067	.008	.296	8.279	.000
	PC	.086	.009	.394	9.300	.000
	FAC	.161	.053	.119	3.036	.003

Dependent Variable: Intention

Incorporating the unstandardized coefficients values for the predictor variables listed as B in Table 7.27 above into an equation gives the following estimated multiple regression model of intention to pursue a career in the AP at end of the FAC:

Intention to pursue a career in the AP = $-241 + 0.039$ intrinsic dimension of attitude + 0.067 subjective norm + 0.086 perceived control + 0.161 perception of FAC.

The above results of the regression analyses, at the beginning and at the end of the FAC, show that subjective norm, attitude and perceived control are significant predictors of intention. Of the dimension of attitude only the intrinsic dimension made a significant contribution to the total amount of variance accounted for in scores on intention at the beginning and at the end of the FAC; therefore, H2b was fully supported. The prestige dimension made a marginally significant contribution to the total amount of variance accounted for in scores on intention only at the beginning of the FAC; therefore, H2c was marginally part supported. The variables extrinsic and social dimension of attitude did not make a significant contribution to the total amount of variance accounted for in scores on intention at the beginning and at the end of the FAC. Hypotheses H2a and H2d were not supported.

7.6.2.1.4 Mediation effect

A necessary precondition for mediation is that significant relationships must be demonstrated between the independent and dependent variables (Baron and Kenny, 1986). The substantial association between subjective norm, intrinsic dimension of attitude, perceived control (predictor variables) and intention (criterion variable) at the end of the FAC directed towards the presence of mediators. Furthermore, the predictive ability of the intrinsic dimension of attitude (standardized coefficient) decreased from .309 at the beginning of the semester to .161 at the end of the semester. Therefore the perception of the FAC and the impression of the accounting educator will be tested as possible mediators among predictor variable intrinsic dimension of attitude and the criterion variable. This was tested with the procedure suggested by Kenny and colleagues (Jude and Kenny, 1981; Baron and Kenny, 1986).

Before proceeding with the execution of the procedure, a preliminary analysis was conducted. A substantial association was identified between the confounding variables and intention, perception of the FAC ($r=.513$, $p<0.001$) and the impression of the accounting educator ($r=.347$, $p<0.001$). However, further tests indicated that there is only a mediation effect between the intrinsic dimension of attitude and students' perceptions of the FAC. The variable impression for accounting educator does not contribute significantly to the prediction of criterion variable.

The procedure consists of three stages, each involving the formation of a hierarchical regression model.

In Stage 1 the mediator (perception of the FAC) was regressed on the predictor (intrinsic dimension of attitude). The contribution of intrinsic dimension of attitude was significant, $\beta=.42$, $t=9.79$, $p<0.000$, $R^2=.178$; $F(1, 442)=95.83$, $p<0.001$ (see Appendix 7.1, Tables 1, 2 and 3).

This satisfied the condition for progress to the second stage. In Stage 2 the criterion (intention to pursue a career in the AP) was regressed on the predictor (intrinsic dimension of attitude). The contribution of intrinsic dimension of attitude was significant, $\beta=.56$, $t=14.39$, $p<0.000$, $R^2=.310$, $F(1, 460)=207.11$, $p<0.000$ (see Appendix 7.1, Tables 4, 5 and 6) and this satisfied progress to the next stage.

In Stage 3 the criterion (intention) was hierarchically regressed on both the predictor (intrinsic dimension of attitude) and the mediator (perception of FAC). Intrinsic dimension of attitude significantly contribute to the prediction of intention ($\beta=.46$, $t=10.23$, $p=0.000$) and perception of FAC significantly added to that variance

($\beta=.34$, $t=8.33$, $p<0.000$, $\Delta R^2=.94$) in the total model, $F(2,441)=149.58$, $p<0.000$, $R^2=.404$ (see Appendix 7.1, Tables 7, 8 and 9).

To conclude, a mediating effect, the total variance contribution of the predictor (intrinsic dimension of attitude) in Stage 3 must be lower than its contribution in Stage 2 (Baron and Kenny, 1986). The contribution of intrinsic dimension of attitudes to the total variance accounted for in Stage 3 was below its contribution in Stage 2, hence the criterion was fulfilled. Furthermore, the contribution of intrinsic dimension in Stage 3 was still significant, which suggested a partial mediation.

Table 7.28 summarizes the results of the testing of the model hypotheses.

Table 7.28: Results of testing the model hypotheses

Predictors	Hypotheses	Results
Subjective Norms	Hypothesis 1: Students' intentions to pursue a career in the AP will be strongly predicted by their subjective norms concerning the pursuit of a career in the AP.	Supported
Attitudes	Hypothesis 2: Students' intentions to pursue a career in the AP will be strongly predicted by their attitudes towards pursuing an accounting career.	Supported
Extrinsic Dimension	Hypothesis 2a: Students' intentions to pursue a career in the AP will be strongly predicted by the extrinsic dimension of their attitudes towards pursuing an accounting career.	Not Supported
Intrinsic Dimension	Hypothesis 2b: Students' intentions to pursue a career in the AP will be strongly predicted by the intrinsic dimension of their attitudes towards pursuing an accounting career.	Supported
Prestige Dimension	Hypothesis 2c: Students' intentions to pursue a career in the AP will be strongly predicted by the prestige dimension of their attitudes towards pursuing an accounting career.	Marginally Part Supported
Social Dimension	Hypothesis 2d: Students' intentions to pursue a career in the AP will be strongly predicted by the social dimension of their attitudes towards pursuing an accounting career.	Not Supported
Perceived Control	Hypothesis 3: Students' intentions to pursue a career in the AP will be strongly predicted by their perceived control over pursuing a career in the AP.	Supported

7.7 ANOVA: Differences in constructs of an ACC between groups of interntion

In Section 7.6 subjective norm, attitude and perceived control were identified as predictors of students' intention to pursue a career in the AP. In this section the study examined the differences and similarities concerning the predictors and sub-predictors of intention among students with different intentions. The scores of 586 and 485 management students at the beginning and at the end of the FAC regarding the measure of intention were grouped into three groups of intention-negative, intention-neutral and intention-positive respectively (see Section 6.5.1.2) in order to test hypotheses 4 through 6.

Table 7.29 shows that 36.6% of the students in the sample had negative intention, 46.3% had neutral intention and 17.1% had positive intention to pursue a career in the AP at the beginning of the FAC. Overall, management students' intention had improved at the end of the FAC.

Table 7.29 Groups of different intention to pursue a career in the AP

Time	Groups	Frequency	Percent	Valid Percent	Cumulative Percent
Beginning of FAC	1.00	214	36.5	36.6	36.6
	2.00	271	46.2	46.3	82.9
	3.00	100	17.1	17.1	100.0
	Total	585	99.8	100.0	
End of FAC	1.00	166	34.2	34.5	34.5
	2.00	221	45.6	45.9	80.5
	3.00	94	19.4	19.5	100.0
	Total	481	99.2	100.0	

The similarities and differences concerning the constructs and sub-constructs of an ACC among groups of intention were investigated by one-way between groups analysis of variance (ANOVA). One-way analysis of variance is so called because it compares the variance between the different groups with the variability within each group. An F ratio is calculated which represents the variance between the groups divided by the variance within the groups. A large F ratio indicates that there is more variability between the groups than there is within each group. A significant F test indicates that the null hypothesis which states that the population means are equal can be rejected. However, with large samples, even very small differences between groups can become statistically significant, as is the case in this study. Pallant (2001) proposes to calculate the “effect size” to assess the importance of differences between groups. The effect size (eta squared) is a standardized measure of group differences used in the calculation of statistical power. Calculated as the difference in group means divided by the standard deviation, it is then comparable across research studies as a generalized measure of differences in group means (Hair et al, 1998).

To gain an even more detailed understanding of the differences between the variables, *post hoc* comparisons for each independent variable were undertaken. In order to control Type I error (that is, finding a significant result when in fact there is not really one), Pallant (2001) suggests setting a higher alpha level to reduce the chance of a Type I error. She recommends applying the Bonferroni adjustment, which is based on dividing the original level of 0.05 by the number of comparisons that are intended to be made. In this analysis the alpha level is considered to be 0.01. There are a number of different *post hoc* tests and these vary in terms of their nature and strictness. The assumptions underlying the post hoc tests also differ. Two of the most commonly used *post hoc* tests are Tukey’s Honestly Significant Difference test (HSD) and the Scheffe test. Of the two, the Scheffe test is the most cautious method for reducing the risk of

Type I error. Both of these tests were employed to investigate the differences on the constructs of an ACC between diverse groups of intention.

7.7.1 Exploring the differences: Beginning of the FAC

The research data collected from the 586 questionnaires at the beginning of the FAC were used to identify the similarities and differences on the scores of constructs of an ACC among groups of intention (descriptive statistics are presented in Appendices 7.2b, 7.2c and 7.2d). Before starting the main analysis, SPSS produced Levene's test for homogeneity of variances, which tests whether the variance in scores is the same for each of the three groups. Table 7.30 shows a summary table of Levene's test of equality of variances for each of the dependent variables. Levene's test should be non-significant for all dependent variables if the assumption of homogeneity of variance has been met (Field, 2000). The results for these data show that the assumption has been met.

Table 7.30: Test of Homogeneity of Variances Beginning of the FAC

Dependent Variables	Levene Statistic	df1	df2	Sig.
Subjective Norm	1.597	2	581	.203
Extrinsic Dimension	1.655	2	569	.192
Intrinsic Dimension	1.812	2	566	.164
Prestige Dimension	1.248	2	576	.288
Social Dimension	.728	2	575	.483
Attitude	.558	2	548	.573
Perceived Control	1512	2	580	.221

7.7.1.1 Tests of between-subjects effects

The nature of differences was determined by the test of between-subjects effects. Table 7.31 contains an ANOVA summary for each of the dependent variables, and values are given for the sums of squares for subjective norm, extrinsic, intrinsic, prestige and social dimension of attitude, attitude and perceived control. The values of p indicate that there were statistically significant differences at the $p < 0.00$ level in the scores of predictors of an ACC among students' groups of intention at the beginning of the FAC.

Table 7.31: ANOVA – Beginning of FAC

Constructs		Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Subjective Norm	Between Groups	2858.505	2	1429.253	87.626	.000	0.24
	Within Groups	9476.568	581	16.311			
	Total	12335.073	583				
Extrinsic Dimension	Between Groups	744.903	2	372.452	33.215	.000	0.10
	Within Groups	6380.395	569	11.213			
	Total	7125.298	571				
Intrinsic Dimension	Between Groups	3130.953	2	1565.477	128.284	.000	0.32
	Within Groups	6907.012	566	12.203			
	Total	10037.965	568				
Prestige Dimension	Between Groups	796.895	2	398.447	27.183	.000	0.08
	Within Groups	8443.116	576	14.658			
	Total	9240.011	578				
Social Dimension	Between Groups	1028.885	2	514.443	28.055	.000	0.09
	Within Groups	10543.748	575	18.337			
	Total	11572.633	577				
Attitude	Between Groups	1240.158	2	620.079	74.955	.000	0.21
	Within Groups	4533.445	548	8.273			
	Total	5773.603	550				
Perceived Control	Between Groups	3448.307	2	1724.154	113.973	.000	0.28
	Within Groups	8774.074	580	15.128			
	Total	12222.381	582				

The above results should lead one to conclude that there are significant differences among students with different intention in terms of their subjective norm, their extrinsic, intrinsic, prestige and social dimension of attitude, their total attitude and their perceived control. However, despite reaching statistical significance, the actual difference in mean scores for prestige and social dimension was quite small (Cohen, 1988). The effect size, calculated using eta squared, was 0.08 for prestige dimension and 0.09 for social dimension (see Table 7.31). The actual difference in scores for extrinsic dimension was medium (eta squared 0.10) and for subjective norm, attitude, perceived control and intrinsic dimension of attitudes was quite large.

When an ANOVA test showed a significant variance between groups, *post hoc* multiple comparison tests (Tukey's and Scheffe tests), as suggested by Cohen (1988) and Pallant (2001), were run to identify the specific group or groups of intention with the significant variance. The results of both tests yielded significant differences among the surveyed management students who had a negative, neutral and positive intention

respectively concerning all the ACC constructs, with $p=0.001$ at the beginning of the FAC (Appendix 7.2a, Tables 1 and 2).

Post hoc tests also provide a plot as an easy way to compare the mean scores for the different groups (Norusis and Inc, 2000). Profile plots are useful for comparing marginal means in the model. Profile plots are created for each dependent variable. A profile plot is a line plot in which each point indicates the estimated marginal mean of the dependent variable (adjusted for covariates) at one level of the groups. In Appendix 7.2a, Figures 1 to 7 show mean plots of the subjective norm, the four dimensions of attitude, the total attitude and the perceived control respectively for the three intention groups at the beginning of the FAC (Figures 1, 3, 6 and 7). It is clear that at the beginning of the FAC, the mean plot values of subjective norm, attitude, intrinsic dimension of attitude and perceived control increases systematically in the three groups of intention which are 1 = intention-negative, 2 = intention-neutral and 3 = intention-positive. As a result, there is a clear difference in surveyed student's scores concerning the above variables. In contrast, in Appendix 7.2a, Figures 2, 4 and 5 illustrate that the mean plot values of extrinsic, prestige and social dimension of attitudes increase systematically but the change in the three groups of intention is not as clear and high as in the above variables. Therefore, despite reaching statistical difference, the actual difference in mean scores concerning the three sub-predictors between groups was small, lacking practical significance as shown through regression analysis.

Further statistical analyses were conducted to identify differences in sub-constructs of an ACC and in dimensions of subjective norm, attitude and perceived control among students in different intention groups at the beginning of the FAC. However, in some of the ANOVA tests the assumption of homogeneity of variance (Levene's test) was violated and thus it was indicated that the variance of scores is not the same for each of the three groups. Therefore, only visual inspection of the mean scores regarding some sub-dimensions of the constructs and sub-constructs of an ACC has been conducted for differences among groups. The results all of these tests are presented in Appendices 7.2b, 7.2c and 7.2d.

7.7.2 Exploring the differences: End of the FAC

The research data collected from the 485 questionnaires at the end of the FAC were used to identify the similarities and differences concerning the constructs of an ACC among different student groups of intention. Table 7.32 presents a summary table of

Levene's test of equality of variances for each of the dependent variables. The results show that the assumption of homogeneity of variance has been met.

Table 7.32: Test of homogeneity of variances – End of FAC

Dependent Variables	Levene Statistic	df1	df2	Sig.
Subjective Norm	.739	2	478	.478
Extrinsic Dimension	.136	2	470	.873
Intrinsic Dimension	.290	2	459	.749
Prestige Dimension	.176	2	459	.839
Social Dimension	1.508	2	472	.222
Attitude	.016	2	430	.984
Perceived Control	1.706	2	477	.191

7.7.2.1 Tests of between-students effects

The nature of differences was determined by the test of between-subjects effects. Table 7.33 contains an ANOVA summary for each of the dependent variables. The values of p indicate that there were statistically significant differences at the $p < 0.00$ level of significance concerning all the scores of constructs of an ACC, among the three intention groups of students, at the end of the FAC. However, the effect size, calculated using eta squared, was small for extrinsic and social dimension 0.10 and 0.09 respectively, medium for prestige dimension 0.14 and large for subjective norm, perceived control, attitude and intrinsic dimension of attitude 0.26, 0.37, 0.23, 0.27, respectively.

Table 7.33: ANOVA – End of FAC

Constructs		Sum of Squares	df	Mean Square	F	Sig.	Eta Squared
Subjective Norm	Between Groups	2762.746	2	1381.373	86.060	.000	0.26
	Within Groups	7672.509	478	16.051			
	Total	10435.255	480				
Extrinsic Dimension	Between Groups	557.180	2	278.590	27.061	.000	0.10
	Within Groups	4838.682	470	10.295			
	Total	5395.862	472				
Intrinsic Dimension	Between Groups	2392.041	2	1196.020	85.939	.000	0.27
	Within Groups	6387.968	459	13.917			
	Total	8780.008	461				
Prestige Dimension	Between Groups	1037.770	2	518.885	36.269	.000	0.14
	Within Groups	6566.757	459	14.307			
	Total	7604.527	461				
Social Dimension	Between Groups	800.776	2	400.388	21.569	.000	0.09
	Within Groups	8761.842	472	18.563			
	Total	9562.618	474				
Attitude	Between Groups	1044.333	2	522.166	63.143	.000	0.23
	Within Groups	3555.934	430	8.270			
	Total	4600.267	432				
Perceived Control	Between Groups	4198.115	2	2099.058	141.276	.000	0.37
	Within Groups	7087.203	477	14.858			
	Total	11285.319	479				

Tables 1 and 2 in Appendix 7.3 present the results of Tukey's (HSD) test and the Scheffe test at the end of the FAC, respectively. The statistical results demonstrate significant differences concerning most of the constructs of an ACC among the surveyed management students who had a negative, neutral and positive intention. According to the results of both tests, only the groups with neutral and positive intention had no significant differences concerning only the social dimension of attitude.

Figures 1 to 7 in Appendix 7.3 present the mean plots of constructs of an ACC for the three intention groups at the end of the FAC. From these figures it is clear that at the end of the FAC there is a systematic increase in mean plot values of subjective norm, attitude, perceived control and intrinsic dimension (Figures 1, 3, 6 and 7). In the dimensions of attitude – extrinsic, prestige and social – there is an increase in mean plot values among the three groups but the increase is not so high.

The results of the ANOVA tests and post hoc analyses of the data at the beginning and the end of the FAC presented above allow us to conclude that there are significant

differences among the three groups of intention concerning the constructs of an ACC. However, as at times statistical significance is a matter of sample size, the results must be interpreted with caution. The effect sizes considering the results of eta squared demonstrate that hypotheses 4, 5, 5b and 6 were fully supported, and hypotheses 5a, 5c, 5d were supported with small and medium effect sizes. No further statistical analysis was conducted for the dimensions, sub-dimensions and sub-constructs of an ACC at the end of the FAC to be discussed in this chapter; however, the next chapter will present detailed information about these variables, after students' participation in a traditional and an innovative FAC respectively.

Table 7.34 summarizes the results:

Table 7.34: Results of identifying differences hypotheses

Predictors	Hypotheses	Results
Subjective Norms	Hypothesis 4: There are significant differences in the subjective norm with respect to pursuing an accounting career among those students who intend and those who do not intend to pursue a career in the AP, or who are as yet undecided.	Fully supported
Attitudes	Hypothesis 5: There are significant differences in the attitude towards pursuing an accounting career among those students who intend and those who do not intend to pursue a career in the AP, or are as yet undecided.	Fully supported
Extrinsic Dimension	Hypothesis 5a: There are significant differences in the extrinsic dimension of attitude towards pursuing an accounting career among those students who intend and those who do not intend to pursue a career in the AP, or are as yet undecided.	Marginally supported
Intrinsic Dimension	Hypothesis 5b: There are significant differences in the intrinsic dimension of attitude towards pursuing an accounting career among those students who intend and those who do not intend to pursue a career in the AP, or are as yet undecided.	Fully supported
Prestige Dimension	Hypothesis 5c: There are significant differences in the prestige dimension of attitude towards pursuing an accounting career among those students who intend and those who do not intend to pursue a career in the AP, or are as yet undecided.	Marginally supported
Social Dimension	Hypothesis 5d: There are significant differences in the social dimension of attitude towards pursuing an accounting career among those students who intend and those who do not intend to pursue a career in the AP, or are as yet undecided.	Marginally supported
Perceived Control	Hypothesis 6: There are significant differences in the perceived control over pursuing an accounting career among those students who intend and those who do not intend to pursue a career in the AP, or are as yet undecided.	Fully supported

7.8 Summary

Regression analysis at the beginning and at the end of the FAC has shown that subjective norm, attitude and perceived control all are important predictors of intention

to pursue a career in the AP. However, stepwise regression analysis on the dimensions of attitude revealed that only the intrinsic dimension is a statistically significant predictor of intention. Extrinsic, prestige and social dimensions of attitude did not contribute to the prediction of intention for the present sample. Investigating the differences among students with different intentions, the constructs of an ACC, i.e., subjective norm, attitude, perceived control and intrinsic dimension, were found to reveal statistical differences between groups of intention and this was supported with quite a large effect size. Furthermore, although there are statistically significant differences among students with negative, neutral and positive intention to pursue a career in the AP, in terms of extrinsic, intrinsic, prestige and social dimension of attitude, the eta squared was quite small; therefore, statistical significance was partly a function of sample size. Furthermore, there are no statistically significant differences in their motivation to comply with significant others, their work values and their evaluation of the importance of possessing relevant vocational self-efficacies among students who have negative, neutral and positive intentions respectively. A more detailed investigation revealed that there are statistically significant differences for normative beliefs, beliefs concerning the attributes and outcomes associated with the AP and self-efficacy beliefs concerning the pursuit of a career in the AP among students in different intention groups.

This chapter has argued and supported empirically that the proposed integrated theoretical framework of an ACC has the potential to provide a useful framework for understanding the ACC at the beginning and at the end of the FAC. The next chapter, based on the new theoretical model of an ACC, investigates the effect of a traditional and an innovative FAC respectively on ACC model's constructs.

Chapter 8.

INVESTIGATING THE EFFECT OF FAC ON CONSTRUCTS OF ACC MODEL

8.1 Introduction

Chapter 7 has identified the main constructs and sub-constructs of an accounting career choice (ACC) that affect students' intention to pursue a career in the accounting profession (AP). The aim of this chapter is to examine the effect of the first accounting course (FAC) on the constructs of an ACC, and specifically to investigate the differences in the scores of the constructs of an ACC after a traditional and an innovative FAC respectively.

The chapter is divided into nine sections. Section 8.2 provides demographic characteristics of the matched sample used in this part of the study. Section 8.3 presents descriptive statistics for the constructs of an ACC and tests the equivalence concerning the constructs of the ACC between students in traditional and innovative FACs respectively at the beginning of the FAC. Section 8.4 presents the hypotheses tested in this part of the study. The aim of Section 8.5 is to examine the effect of a traditional FAC on the constructs of an ACC while Section 8.6 investigates the effect of an innovative FAC on the constructs of an ACC. Section 8.7 investigates changes in the constructs of an ACC in the control group at the beginning and the end of the first academic semester. Section 8.8 examines if there were significant differences concerning the constructs of an ACC between students in traditional and innovative FACs respectively at the end of the FAC. The final section, Section 8.9, outlines the main conclusions of the chapter.

8.2 Sample profile

A total of 250 students, 215 management and 35 engineering students, completed a questionnaire at the beginning and at the end of the FAC and these are the samples in this part of the study. Table 8.1 presents demographic information for the students in the traditional, innovative and control matched groups. According to the survey results, the students who participated in the traditional group were from the following ATEIs: ATEI

Athens 19 (12.8%), ATEI Piraeus 6 (4%), ATEI Patra 22 (14.8%), ATEI Chalkida 28 (18.8%), ATEI Larisa 28 (18.8%), ATEI Kozani 38 (25.5%), and ATEI Seres 8 (5.4%). 94 of the students in traditional courses were women (58.9%) and 54 men (39.6%). Most of the students were under 21 years of age and all were officially enrolled in the first academic semester (87.2%). Most of the students were Greek, with only 6.0 % of the students being of other nationalities.

The students in the innovative group were from the following ATEIs: ATEI Athens 46 (69.7%) and ATEI Piraeus 20 (30.3%). 40 of the students were women (60.6%) and 26 men (39.4%). Most of the students were under 21 years of age and all were officially enrolled in the first academic semester (86.4%). Most of the students were Greek, with only 4.5% of the students being of other nationalities.

The control group consisted of 35 students at the ATEI Athens. The majority of the students were under 20 years of age, male and of Greek nationality. They were officially enrolled in the first academic semester.

Table 8.1: Demographic characteristics of the matched sample

	Experimental groups				Control group	
	Traditional frequency	Traditional %	Innovative frequency	Innovative %	frequency	%
Institution						
Athens	19	12.8	46	69.7	35	100
Piraeus	6	4.0	20	30.3	0	0
Patra	22	14.8	0	0	0	0
Chalkida	28	18.8	0	0	0	0
Larisa	28	18.8	0	0	0	0
Kozani	38	25.5	0	0	0	0
Seres	8	5.4	0	0	0	0
Total	149	100	66	100	35	100
Sex						
Male	54	39.6	26	39.4	34	97
Female	94	58.9	40	60.6	1	3
Age						
Under 19	24	16.1	11	16.7	6	5
19-20	108	72.5	40	60.9	25	82
21-24	15	10.1	12	18.1	4	13
Over 25	1	0.7	3	4.5	0	0
Academic semester						
1	130	87.2	57	86.4	24	81
2	9	6.0	6	9.1	4	13
3	3	2.0	2	3.0	1	3
4	0	0	0	0	1	3
5	2	1.3	0	0	0	0
6	1	0.7	0	0	0	0
7	0	0	0	0	0	0
Over 8	0	0	0	0	0	0
Nationality						
Greek	135	90.6	61	92.4	26	87
Other	9	6.0	3	4.5	4	13

Note: Due to non-responses, some categories do not add up to the total.

8.3 Preliminary analysis

8.3.1 Descriptive statistics for the constructs of an ACC

This section presents statistical information for the main constructs of an ACC for the matched sample. Additionally, as all three constructs (subjective norm, attitude and perceived control) have contributed significantly to the prediction of intention to pursue an accounting career, descriptive statistics are provided for the constructs' dimensions.

Table 8.2 provides descriptive information for the main constructs of an ACC for students in traditional and innovative FACs respectively at the beginning and the end of the FAC. The total sample of management students at the beginning and the end of the FAC has scores on intention to pursue a career in the AP slightly below the mid point of 3 (on a 1-to-5-point measure). The mean score of intention improved in the innovative course and deteriorated in the traditional FAC at the end of the semester.

The subjective norm score for both groups were below the mid-point of 13 (on a 1-to-25-point measure) at the beginning of the FAC. Interestingly, in both groups the subjective norm score had improved at the end of the FAC, but still remained below the mid-point of the measure. The scores of attitude and perceived control were above the mid-point at the beginning of the semester for students in both traditional and innovative FAC. At the end of the semester, students in innovative FAC indicated higher scores for both constructs attitude and perceived control. In contrast, students in the traditional FAC indicated lower scores for both constructs attitude and perceived control. It is remarkable that the score of perceived control had dropped below the mid-point (13) of the measure in the traditional FAC group at the end of the semester.

Table 8.2: Descriptive statistics – Main constructs of ACC

Main Constructs	Traditional Beginning		Traditional End		Innovative Beginning		Innovative End		Control Beginning		Control End	
	Mean	StdD	Mean	StdD	Mean	StdD	Mean	StdD	Mean	StdD	Mean	StdD
Intention	2.72	1.02	2.63	1.01	2.89	0.95	3.14	0.03	1.30	0.49	1.34	0.56
Subjective Norm	9.66	4.24	10.74	4.59	10.89	4.50	12.17	0.29	5.17	0.97	5.31	0.94
Attitude	14.22	3.18	14.05	3.41	14.60	2.41	15.13	2.32	6.21	2.76	6.34	2.45
Perceived Control	14.43	4.42	12.46	4.94	14.24	0.15	14.81	4.97	4.01	1.23	4.23	1.19

Tables 8.3 to 8.5 provide descriptive statistics for the dimensions of the constructs of an ACC. The descriptive information for the dimensions subjective norm, attitude and perceived control provided further insights into the differences in scores between the traditional and the innovative course at the beginning and the end of the semester.

Table 8.3 shows that the scores of the dimensions of subjective norm in traditional group were below the mid-point of 13 at the beginning of the semester. As with the whole sample (see Section 7.3), the dimension of SN family had the higher score followed by the dimension SN society, dimension SN friends and dimension SN teachers. Interestingly, all the scores have improved at the end of the semester. In the innovative group at the beginning of the semester all the dimensions of subjective norm had higher scores than the dimensions of subjective norm in the traditional group, but still below the mid-point of 13 except the dimension SN family (however the difference was not statistically significant; see Section 8.3.2, Table 8.7). At the end of the course all scores of dimensions of subjective norm have improved in both traditional and innovative FACs.

Table 8.3: Descriptive statistics – Dimensions of SN

Dimensions	Traditional Beginning		Traditional End		Innovative Beginning		Innovative End		Control Beginning		Control End	
	Mean	StdD	Mean	StdD	Mean	StdD	Mean	StdD	Mean	StdD	Mean	StdD
SN Family	11.69	5.93	12.77	6.19	13.41	6.05	14.23	6.34	11.69	5.93	12.77	6.19
SN Friends/Peers	8.94	4.70	9.54	4.71	9.46	5.02	10.79	5.86	8.943	4.70	9.54	4.71
SN Society	9.23	4.84	10.79	5.44	10.48	5.56	11.24	5.12	9.23	4.84	10.79	5.44
SN Teachers	8.84	5.77	9.81	6.04	10.23	6.77	12.44	6.01	8.84	5.77	9.81	6.04

In order to gain a deeper understanding of the dimensions of subjective norm, descriptive statistics for normative beliefs, motivation to comply with the opinion of significant others and their individual items are presented in Appendix 8.1, Tables 1 and 2. According to these results, the normative belief concerning the opinion of family to pursue an accounting career was rated higher by all students at the beginning and at the end of the first academic semester. The motivation to comply with the family also was rated higher than the motivation to comply with all other significant others. Therefore, the dimension SN family had the higher score among all the dimensions of subjective norm. In addition, these results revealed how much students' scores on normative beliefs concerning teachers and their motivation to comply with the opinion of teacher in the innovative group had improved at the end of the FAC.

Table 8.4 provides information for the dimensions of students' attitude towards pursuing an accounting career. The intrinsic dimension for both groups at the beginning and at the end of the semester had the higher score above the mid-point of 13, followed by prestige dimension, social dimension and extrinsic dimension. Descriptive statistics for the sub-dimensions of attitude are presented in Appendix 8.1, Table 7.

Table 8.4: Descriptive statistics – Dimensions of attitude

Dimensions	Traditional Beginning		Traditional End		Innovative Beginning		Innovative End	
	Mean	StdD	Mean	StdD	Mean	StdD	Mean	StdD
Extrinsic	13.17	3.29	13.14	3.71	13.33	2.59	13.72	2.62
Intrinsic	15.97	4.14	15.26	4.15	16.74	3.88	17.31	3.45
Prestige	13.89	4.17	13.77	4.11	14.31	2.98	15.25	3.43
Social	13.49	4.23	13.58	4.34	14.31	3.90	14.68	3.99

Appendix 8 provides further information regarding the types of work values and beliefs concerning the attributes and outcomes associated with the AP (extrinsic, intrinsic, prestige and social). Management students in both groups at the beginning and at the end of the FAC indicated that the AP is associated more with intrinsic outcomes, followed by social, prestige and extrinsic outcomes (Appendix 8.1 Table 4). Regarding Greek management students' work values, the intrinsic work value type has been ranked higher followed by extrinsic, prestige and social type of work values (Appendix 8.1

Table 3). Further descriptive statistics for individual work values and beliefs concerning the attributes and outcomes associated with the AP are presented in Appendix 8.1, Tables 5 and 6.

Table 8.5 shows that the scores of dimensions of perceived control in the traditional FAC group are above the mid-point of 13 at the beginning of the semester. However, the scores on dimensions of perceived control had dropped at the end of the semester in the traditional FAC group and improved slightly in the innovative FAC group.

Table 8.5: Descriptive statistics – Dimensions of PC

Dimensions	Traditional Beginning		Traditional End		Innovative Beginning		Innovative End	
	Mean	StdD	Mean	StdD	Mean	StdD	Mean	StdD
Skills/Qualification	14.09	5.42	11.89	5.62	14.20	5.64	14.70	5.56
Degrees	14.39	5.01	12.89	5.47	14.46	4.84	15.29	5.07
Ability	14.73	4.66	12.59	5.33	14.20	4.96	14.49	5.49

For a deeper insight Table 8 in Appendix 8.1 presents descriptive statistics of self-efficacy beliefs, and of evaluation of importance of possessing relevant vocational self-efficacies. Table 9 in Appendix 8.1 presents descriptive statistics of individual items of perceived control over pursuing a career in the AP for both traditional and innovative FAC groups. The results indicate that in the traditional FAC group, students' scores on self-efficacy beliefs to be accountants have decreased, which has affected their score on perceived control construct. The score on importance of possessing relevant vocational self-efficacies measure has remained the same.

8.3.2 Testing initial equivalence between traditional and innovative groups

Table 8.6 displays the results of independent T-tests to identify differences concerning the main constructs of an ACC between students in traditional and innovative FACs respectively at the beginning of the FAC.

Table 8.6: T-test for initial equivalence between traditional and innovative FAC groups

Constructs	FAC Groups	Mean scores	Mean difference	T-value	P
Intention	Traditional	2.72	.17	1.157	.249
	Innovative	2.89			
Subjective Norm	Traditional	9.67	1.22	1.809	.060
	Innovative	10.89			
Attitude	Traditional	14.22	.40	1.089	.278
	Innovative	14.61			
Perceived Control	Traditional	14.43	-.14	-.214	.830
	Innovative	14.29			

According to the results of the T-tests, *p*-values were above the 5% level of significance for all constructs of ACC, which means that there were no statistically significant differences in terms of the constructs of an ACC between students in the traditional and innovative FAC groups at the beginning of the first academic semester.

8.4 Hypotheses relating to investigation of effects of FAC on ACC constructs

This part of the study was designed to investigate the effects of a traditional and an innovative FAC respectively on ACC constructs. Five main hypotheses were generated to achieve this:

Hypothesis 7: Students' ACC constructs – intention, subjective norm, attitude and perceived control – will deteriorate between the beginning and the end of a traditional FAC.

Hypothesis 7a: Students' intention will deteriorate between the beginning and the end of a traditional FAC.

Hypothesis 7b: Students' subjective norm will deteriorate between the beginning and the end of a traditional FAC.

Hypothesis 7c: Students' attitude will deteriorate between the beginning and the end of a traditional FAC.

Hypothesis 7d: Students' perceived control will deteriorate between the beginning and the end of a traditional FAC.

Hypothesis 8: Students' ACC constructs – intention, subjective norm, attitude and perceived control – will improve between the beginning and the end of an innovative FAC.

Hypothesis 8a: Students' intention will improve between the beginning and the end of an innovative FAC.

Hypothesis 8b: Students' subjective norm will improve between the beginning and the end of an innovative FAC.

Hypothesis 8c: Students' attitude will improve between the beginning and the end of an innovative FAC.

Hypothesis 8d: Students' perceived control will improve between the beginning and the end of an innovative FAC.

Hypothesis 9: There will be a statistically significant difference in score of intention between students in a traditional and those in an innovative FAC, at the end of the first academic semester.

If the above hypothesis nine reveals a statistically significant difference, the following hypotheses will be tested in order to identify differences concerning the other constructs of an ACC between students in a traditional and those in an innovative FAC.

Hypothesis 10: Students in traditional and innovative FACs will differ in terms of subjective norm, extrinsic, intrinsic, prestige and social dimension of attitude and perceived control at the end of the first academic semester.

Hypothesis 11: Students in the innovative FAC will have more favourable intention, subjective norm, attitude and perceived control than students in the traditional FAC measured across the period of time from the beginning to the end of the semester. Independent and paired T-tests, one way ANOVA and mixed between-within subjects' ANOVA and MANOVA were employed to test the above hypotheses.

8.5 Investigating the effect of traditional FAC on ACC constructs

Hypothesis 7 predicted that traditional courses will have an adverse effect on ACC constructs. In order to examine the effects of the traditional FAC on the ACC constructs paired T-test analyses were conducted with matched subjects in the traditional FAC, i.e., 149 management students.

Table 8.7 presents the results of paired T-tests for the main constructs and sub-constructs of the ACC. The results of the paired T-tests were mixed.

Table 8.7: Change in ACC constructs in traditional FAC group

Constructs	Cases No.	Beginning Mean	End Mean	Mean Differ	T-test Value	P (2-tailed)
Intention	149	2.724	2.634	.090	1.116	.266
Subjective Norm	147	9.667	10.735	-1.068	-2.893	.004
Attitude	124	14.219	14.055	.1641	.783	.435
Extrinsic Dimension	144	13.159	13.119	.0405	.179	.858
Intrinsic Dimension	138	15.913	15.260	.6712	1.938	.052
Prestige Dimension	140	13.952	13.781	.1707	.573	.567
Social Dimension	144	13.502	13.590	-.0880	-.319	.750
Perceived Control	148	14.426	12.460	1.966	4.566	.000

The mean intention score dropped from 2.724 at the beginning of the semester to 2.634 at the end of the semester (on a 1-to-5-point scale). This difference was not statistically significant ($T=1.16, p=0.266$).

The mean subjective norm score improved from 9.667 at the beginning of the semester to 10.735 at the end of the semester (on a 1-to-25-point scale). This difference was statistically significant ($T=-2.893, p=0.004$).

The mean attitude score dropped from 14.192 at the beginning of the semester to 14.013 at the end of the semester (on a 1-to-25-point scale). This difference was not statistically significant ($T=1.000, p=0.319$).

The mean perceived control score dropped from 14.423 at the beginning of the semester to 12.460 at the end of the semester (on a 1-to-25-point scale). This difference was statistically significant ($T=4.566, p=0.000$).

Statistically significant differences have not been identified for the dimensions of attitude. However, there was an adverse effect on the intrinsic dimension of attitude that is close to significant ($T=1.938, p=0.052$).

Paired T-tests were conducted to identify statistically significant changes in work values and beliefs concerning attributes and outcomes associated with the AP (Appendix 8.2, Tables 1 and 2). There were no statistically significant differences in work values' scores of students in the traditional FAC group between the beginning and the end of the first academic semester. A statistically significant difference was found for intrinsic beliefs between the beginning and end of the first academic semester. This explains the change to the intrinsic dimension of attitude mentioned above. All other beliefs concerning extrinsic, prestige and social outcomes associated with the AP remained stable.

Based on the above results it can be concluded that:

Hypothesis 7: Students' ACC constructs – intention, subjective norm, attitude and perceived control – will deteriorate between the beginning and the end of a traditional FAC.	Partly supported
Hypothesis 7a: Students' intention will deteriorate between the beginning and the end of a traditional FAC.	Rejected
Hypothesis 7b: Students' subjective norm will deteriorate between the beginning and the end of a traditional FAC.	Rejected
Hypothesis 7c: Students' attitude will deteriorate between the beginning and the end of a traditional FAC.	Rejected
Hypothesis 7d: Students' perceived control will deteriorate between the beginning and the end of a traditional FAC.	Fully supported

8.6 Investigating the effect of innovative FAC on ACC constructs

Hypothesis 8 predicted that innovative courses will have a positive effect on ACC constructs. Paired T-test analyses were conducted with the matched subjects, i.e., 66 management students in innovative accounting courses.

Table 8.8 presents the results of paired T-tests for the main constructs and sub-constructs of an ACC. The results of paired T-tests were mixed.

Table 8.8: Changes in ACC constructs in innovative FAC group

Constructs	Cases N	Beginning Mean	End Mean	Mean Differ	T-test Value	P (2-tailed)
Intention	66	2.894	3.142	-.249	-2.316	.024
Subjective Norm	66	10.894	12.174	-1.280	-2.399	.019
Attitude	61	14.598	15.127	-.529	-2.410	.019
Extrinsic Dimension	64	13.326	13.634	-.309	-1.059	.294
Intrinsic Dimension	65	16.740	17.327	-.587	-1.408	.164
Prestige Dimension	65	14.338	15.250	-.912	-2.114	.038
Social Dimension	65	14.310	14.680	-.369	-.105	.296
Perceived control	64	14.281	14.792	-.510	-.927	.358

The mean score of intention improved from 2.894 at the beginning of the semester to 3.142 at the end of the semester (on a 1-to-5-point scale). This difference was statistically significant ($T=2.316$, $p=0.024$).

The mean score of subjective norm improved from 10.894 at the beginning of the semester to 12.174 at the end of the semester (on a 1-to-25-point scale). This difference was statistically significant ($T=-2.399$, $p=0.019$).

The mean score of attitude improved from 14.598 at the beginning of the semester to 15.127 at the end of the semester (on a 1-to-25-point scale). This difference was statistically significant ($T=-2.410$, $p=0.019$).

The mean score of perceived control score improved from 14.281 at the beginning of the semester to 14.792 at the end of the semester (on a 1-to-25-point scale). This difference was not statistically significant ($T=-.927$, $p=0.358$).

Statistically significant differences were identified only for the prestige dimension of attitude ($T=-2.114$, $p=0.038$). In addition, paired T-tests were conducted to identify statistically significant changes in work values and beliefs concerning the attributes and outcomes associated with the AP (Appendix 8.3, Tables 1 and 2). A statistically significant difference was found for the extrinsic work values between the beginning and the end of the first academic semester. There were no statistically significant differences in beliefs concerning the outcomes associated with the AP between the beginning and the end of the first academic semester. However, there was an

improvement in the mean score of prestige beliefs and an increase in the mean score of prestige work values that affect the above statistically significant change in the score of the prestige dimension of attitude in the innovative FAC group.

Based on the above results it can be concluded that:

Hypothesis 8: Students' ACC constructs – intention, subjective norm, attitude and perceived control – will improve between the beginning and the end of an innovative FAC.	Partly supported
Hypothesis 8a: Students' intention will improve between the beginning and the end of an innovative FAC.	Fully supported
Hypothesis 8b: Students' subjective norm will improve between the beginning and the end of an innovative FAC.	Fully supported
Hypothesis 8c: Students' attitude will improve between the beginning and the end of an innovative FAC.	Fully supported
Hypothesis 8d: Students' perceived control will improve between the beginning and the end of an innovative FAC.	Rejected

8.7 Control group tests

In order to identify differences in ACC constructs in the control group (non-business students) between the beginning and the end of the first academic semester, paired T-tests were conducted.

Table 8.9 shows the results of paired T-tests concerning all the constructs of an ACC in the control group between the beginning and the end of the first semester.

Table 8.9: Changes in ACC constructs in control group

Constructs	Cases N	Beginning Mean	End Mean	Mean Differ	T-test Value	P (2-tailed)
Intention	35	1.30	1.34	-0.04	-349	.730
Subjective norm	35	5.17	5.31	-0.14	-220	.830
Attitude	35	6.21	6.34	-0.13	-244	.743
Perceived control	35	4.01	4.23	-0.22	-256	.800

Based on the above results it can be concluded that:

- There were no statistically significant difference in scores of intention between the beginning [M=1.30] and the end of the first academic semester [M=1.34], $T = -.349, p=0.730$.

- There were no statistically significant difference in scores of subjective norm between the beginning [M=5.17.] and the end of the first academic semester [M=5.31], $T = -.220$, $p = 0.830$.
- There were no statistically significant difference in scores of attitudes between the beginning [M=6.21] and the end of the first academic semester [M=6.34], $T = -.244$, $p = 0.740$.
- There were no statistically significant difference in scores of perceived control between the beginning [M=8.80] and the end of the first academic semester [M=9.05], $T = -.256$, $p = 0.800$.

These results of paired T-tests for the control group confirm that the identified differences between students' scores on constructs of an ACC in traditional and innovative FACs (see Sections 8.5 and 8.6) have been caused by the FAC and not by maturation effects.

8.8 Differences in constructs of an ACC between traditional and innovative FAC groups

8.8.1 Independent T-test

Hypothesis 9 predicts that there will be statistically significant difference in scores of intention between students in a traditional and those in an innovative FAC at the end of the first academic semester. In order to investigate any difference in scores of intention between students in traditional and innovative FAC an independent T-test was conducted.

As shown in Table 8.10, there is a statistically significant difference between the two groups of students in terms of their intention at the 0.01 of significant level, which is valid reason for accepting hypothesis 9.

Table 8.10: Results of T test between two groups regarding intention at the end of the FAC

Construct	Groups	Mean	Mean Difference	T-value	P
Intention	Traditional Innovative	3.1424 2.6336	.50887	3.396	0.01

Based on the above results it can be concluded that:

Hypothesis 9: There will be statistically significant difference in score of intention between students in a traditional and those in an innovative FAC, at the end of the first academic semester.	Fully supported
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The results of the above independent T-test revealed that the two groups showed a statistically significant difference in terms of their intention to pursue an accounting career at the end of the FAC. Statistical tests in previous sections (see Sections 8.5 and 8.6) have revealed that students' scores on some constructs of the ACC had improved in innovative groups whereas the results in the traditional group were mixed.

It is necessary then to identify whether there are significant differences between the two groups in terms of the overall model of an ACC. Multivariate analysis of variance (MANOVA) is a suitable technique for such an investigation.

8.8.2 MANOVA

MANOVA is mainly used to test the statistical significance of dissimilarities between the means of two or more groups on two or more dependent variables, considered simultaneously (Pallant, 2001). The analysis of variances is based on the assumption of causality, in other words, group membership causes attitudes (Babbie, 2004). The rationale behind applying MANOVA is that it allows the researcher to simultaneously study several dependent measures that are orthogonally related. Moreover, it is appropriate in field survey research where the independent measures are categorical. MANOVA can offer insights into not only the nature and predictive power of the independent measures, but into the inter-relationships and dissimilarities perceived in the set of dependent measures as well. An essentially multivariate research question involves a set of dependent measures in which the principal concern is how they differ as a whole across the groups. Dissimilarities in individual dependent measures are of less interest than their combined effect (Hair et al., 1998).

Similar to the other analytical methods discussed above, the researcher should consider all aspects of the research question carefully and ensure that MANOVA is useful in the correct manner. Matters to consider regarding the suitability and validity of the method include how the dependent measures are determined and ensuring that the basic assumptions of the technique are not debased. Dependent measures should be selected and grouped according to a theoretical basis. In this research, dependent measures are grouped according to their theoretical function in the model as subjective norm, attitude and perceived control. MANOVA was conducted at a 0.05 level of significance, in order to determine the effect of perceived control, attitude (extrinsic, intrinsic, prestige and social dimension) and subjective norm on the surveyed students' intention to pursue a career in the AP.

Thus, the statistical procedures to be adopted in this part of the study will be MANOVA, as this will help to explore the differences between traditional and innovative FACs across the constructs of an ACC.

8.8.2.1 Preliminary analysis and testing MANOVA assumptions

Prior to presenting the results of a MANOVA analysis, essential considerations need to be taken into account, which include the adequacy of the sample sizes in each cell of the analysis and the assessment of homogeneity of variance-covariance matrices, normality, outliers and multicollinearity.

Unequal sample size

Unequal sample sizes, as mentioned above (Section 8.2), exist for the traditional and innovative accounting courses. The traditional group contains 149 and the innovative group 66 students. Unequal cell sizes are acceptable in MANOVA if there are more cases than dependent variables in every cell (Tabachnick and Fidell, 2001). In this study, there are six dependent variables; Table 8.11 shows that the number of students in each cell is greater (at a minimum of 63 cases) than the number of dependent variables (6 dependent variables – subjective norm, extrinsic, intrinsic, prestige and social dimension, and perceived control).

Table 8.11: Descriptive statistics for MANOVA test

Constructs	FAC Groups	Mean	Std. Deviation	N
Subjective Norm	Innovative	12.1627	4.37878	63
	Traditional	10.6143	4.61263	129
	Total	11.1224	4.58407	192
Perceived Control	Innovative	14.8571	4.89924	63
	Traditional	12.5633	5.03336	129
	Total	13.3160	5.09271	192
Extrinsic Dimension	Innovative	13.7302	2.65157	63
	Traditional	13.0368	3.68215	129
	Total	13.2643	3.38747	192
Intrinsic Dimension	Innovative	17.3988	3.45870	63
	Traditional	15.4884	4.11986	129
	Total	16.1152	4.00833	192
Prestige Dimension	Innovative	15.2970	3.47764	63
	Traditional	13.8275	4.13252	129
	Total	14.3097	3.98108	192
Social Dimension	Innovative	14.6296	4.03829	63
	Traditional	13.6886	4.46754	129
	Total	13.9974	4.34344	192

Box's and Levene's tests of equality

MANOVA requires homogeneity of the variance-covariance's matrices for each cell so that a reliable mutual estimate of error can be calculated (Tabachnick and Fidell, 2001). If cell sizes are equal, homogeneity can be assumed. However, with unequal cell sizes an additional test is required. As a result, Box's M test was employed on the MANOVA data and found them to be significant at the $p < 0.001$ level, as shown in Table 8.12, indicating that strength is not guaranteed (Stevens, 1996). Tabachnick and Fidell (1996, p. 81) warn that Box's M can tend to be too strict with large sample size, as is the case in this study.

Table 8.12: Box's test of equality of covariance

Box's M	48.408
F	2.213
df1	21
df2	58985.232
Sig.	.001

Tabachnick and Fidell (2001) have suggested that, in this type of situation, the null hypothesis may be rejected, although to ensure conservatism, they also recommended Wilks' Lambda for general use, even though Pillai's Trace is more recommendable if the sample is small or N values are unequal. This study has applied both.

Table 8.13 shows a summary of Levene's test of equality of variances for each of the dependent variables. Levene's test should be non-significant for all dependent variables if the assumption of homogeneity of variance has been met (Field, 2000). The results displayed in Table 8.13 clearly demonstrate that the assumption of equality of error variances is met for the present data.

Table 8.13: Levene's test of equality of error variances

Constructs	F	df1	df2	P
Subjective Norm	.169	1	190	.681
Perceived Control	.127	1	190	.722
Extrinsic Dimension	3.813	1	190	.067
Intrinsic Dimension	3.086	1	190	.081
Prestige Dimension	.969	1	190	.326
Social Dimension	.023	1	190	.879

Multicollinearity

As MANOVA involved six dependent variables (i.e. subjective norm, extrinsic, intrinsic, prestige, social dimension of attitude and perceived control), multicollinearity

was tested, which refers to a correlation between three or more dependent variables. The most popular way of investigating collinearity is to examine the correlation matrix (Hair et al., 1998). Consequently, collinearity was tested through the correlation matrix for the six dependent variables. A multicollinearity problem can occur when there is a high magnitude of correlation (i.e. ± 0.90) among any of the dependent variables (Hair et al., 1998). Pearson's correlation coefficients (r) between each pair of the dependent variables are shown in Table 8.14 The highest correlation was found between intrinsic and social dimension of attitudes ($r=.603$), indicating the suitability of using MANOVA.

Table 8.14: Pearson correlation coefficients among the constructs of ACC

Constructs Statistics		SN	Extrinsic Dimension	Intrinsic Dimension	Prestige Dimension	Social Dimension	PC
Subjective Norm	Pearson Correlation	–					
Extrinsic Dimension	Pearson Correlation	.488**	–				
Intrinsic Dimension	Pearson Correlation	.472**	.482**	–			
Prestige Dimension	Pearson Correlation	.406**	.521**	.554**	–		
Social Dimension	Pearson Correlation	.370**	.402**	.603**	.459**	–	
Perceived Control	Pearson Correlation	.448**	.417**	.537**	.458**	.225**	–

** Correlation is significant at the 0.01 level (2-tailed)

As the correlation matrix examines simple correlations between two variables, it is necessary to investigate multiple correlations among the six dependent variables, which reflect interaction effects in addition to simple correlations. Two of the most widely used measures for assessing multicollinearity are the “Tolerance” and the “Variance Inflation Factor” (see Section 7.5). Table 8.15 shows that multicollinearity was not a problem in the present analysis as tolerance values were not less than the cut-off level of 0.10 and Variance Inflation Factor values did not exceed 10.0.

Table 8.15: Collinearity statistics among the constructs of ACC

	Tolerance	VIF
(Constant)		
Subjective Norm	.592	1.689
Extrinsic Dimension	.579	1.726
Intrinsic Dimension	.388	2.577
Prestige Dimension	.559	1.787
Social Dimension	.527	1.897
Perceived Control	.561	1.781

Normality

MANOVA requires univariate and multivariate normality to be met. Univariate normality assumes that every dependent variable is normally distributed. First, univariate normality was tested using the Kolmogorov-Smirnov test. This assesses the normality of the distribution of scores for each dependent variable. A non-significant result ($p > .05$) indicates normality. As shown in Table 8.16, all the p -values for the depended variables are more than .05%, which indicates that the assumption of univariate normality has not been violated.

Table 8.16: Tests of normality – Kolmogorov-Smirnov test

Constructs	FAC Group	Statistic	df	<i>P</i>
Subjective Norm	Innovative	.047	66	.200*
	Traditional	.055	147	.200*
Perceived Control	Innovative	.081	65	.200*
	Traditional	.049	149	.200*
Extrinsic Dimension	Innovative	.046	66	.200*
	Traditional	.073	145	.055*
Intrinsic Dimension	Innovative	.061	66	.200*
	Traditional	.047	142	.200*
Prestige Dimension	Innovative	.082	65	.200*
	Traditional	.053	141	.200*
Social Dimension	Innovative	.091	65	.200*
	Traditional	.054	147	.200*

* 0.5% significant level

One of the more serious limitations of MANOVA is that is quite sensitive to multivariate normality and more specific to outliers. Outliers are cases with extreme values occurring within discrete or continuous variables, either on a single variable (univariate outlier) or on a combination of scores on two or more variables (multivariate outlier) (Tilley, 1993). Outliers are an invasive problem in statistical analyses and potentially lead to both Type I and Type II errors (Tabachnick and Fidell, 2001). In order to detect the presence of outliers in the present data, Mahalanobis distance was used. Mahalanobis distance is the distance of a particular case from the centroid of the remaining cases, where the centroid is the point created by the means of all the variables (Tabachnick and Fidell, 2001). This analysis will pick up any cases that have a strange pattern of scores across the six dependent variables. Table 8.17 illustrates the maximum values in the traditional and innovative course for Mahalanobis distance.

Table 8.17: Descriptive statistics for Mahalanobis distance

FAC Group	Cases N	Minimum	Maximum	Mean	Std. Deviation
Traditional	142	.5365	18.3818	4.8412	3.8318
Innovative	65	1.1136	15.4728	5.835	3.6178

The maximum values for the traditional and innovative courses are 18.3818 and 15.4728 respectively. These two values will be compared to a critical value, which represents the upper limit of Mahalanobis distance in relation to the number of dependent variables. In the case of this analysis, there are six dependent variables and the critical value is 22.46 (Extracted and adapted from a table in Pallant, 2001, Table 19.1, p. 221; originally from Pearson, E. S. and Hartley, H. O., 1958. *Biometrika tables for statisticians* (vol. 1, 2nd edition), New York: Cambridge University Press.).

Comparing the maximum values for traditional and innovative groups with the critical value it is obvious that both are below the critical value. Therefore, there are no multivariate outliers in the MANOVA test with the present data.

8.8.2.2 Multivariate testing

Table 8.18 shows the result of the MANOVA test to identify the overall difference between the traditional and innovative groups in terms of the constructs of an ACC. As shown in Table 8.18, all four tests revealed statistically significant scores below 0.05, which are therefore a valid reason to accept hypothesis 10. Therefore, it can be noted that there is statistically significant difference between the two groups in terms of the overall constructs of an ACC.

Table 8.18: Results of MANOVA test

Effect	Test	Value	F	P
Traditional versus Innovative FAC Group	Pillai's Trace	.069	2.280(b)	.038
	Wilks' Lambda	.931	2.280(b)	.038
	Hotelling's Trace	.074	2.280(b)	.038
	Roy's Largest Root	.074	2.280(b)	.038

From the above results it can be concluded that the two types of FAC had a significantly different effect on students' scores concerning the overall model of constructs of an ACC. However, the nature of this effect is not clear from the multivariate test statistic (Field, 2000). There is no information whether the traditional and innovative FACs have affected all the predictors of intention to pursue an AC – subjective norm, dimensions of attitude and perceived control. To determine the nature of the effect on the specific constructs, univariate tests should be provided.

8.8.2.3 ANOVA follow-up

The nature of the differences was examined by the test of between-subject effects. ANOVA is used to investigate whether the difference pertains to the dependent variables or just some. Table 8.19 shows which construct contributes most to the gap between the two groups. It was revealed that “subjective norm”, “intrinsic dimension of attitude”, “prestige dimension of attitude” and “perceived control” had *p*-value under at the .05% of level of significance, which indicates that there are statistically significant differences between traditional and innovative FAC groups in term of their scores on these constructs.

Table 8.19: Statistical difference between two FAC groups concerning constructs of ACC

Dependent Variables	FAC Groups	Mean	F-value	<i>P</i>
Subjective Norm	Traditional	10.735	4.928	.023
	Innovative	12.174		
Extrinsic Dimension	Traditional	13.135	1.780	.184
	Innovative	13.716		
Intrinsic Dimension	Traditional	15.262	10.072	.002
	Innovative	17.314		
Prestige Dimension	Traditional	13.771	5.915	.016
	Innovative	15.249		
Social Dimension	Traditional	13.577	1.997	.159
	Innovative	14.680		
Perceived Control	Traditional	12.456	8.944	.003
	Innovative	14.810		

Therefore, it can be noted that:

- There is a statistically significant difference between traditional and innovative FAC group in terms of the subjective norm concerning the pursuit of a career in the AP.
- There is a statistically significant difference between traditional and innovative FAC group in terms of the intrinsic dimension of attitude towards pursuing a career in the AP.
- There is a statistically significant difference between traditional and innovative FAC group in terms of the prestige dimension of attitude towards pursuing a career in the AP.
- There is a statistically significant difference between traditional and innovative FAC group in terms of the perceived control over pursuing a career in the AP.

Further statistical analyses are presented in Appendix 8.4, Tables 1-6, concerning differences on scores of dimension and sub-dimension of the constructs of an ACC (subjective norm, attitude and perceived control).

Based on the above results, it can be concluded that:

Hypothesis 10: Students in traditional and innovative FAC will differ in terms of subjective norm, and extrinsic, intrinsic, prestige and social dimension of attitude and perceived control at the end of the first academic semester.	Partly supported
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8.8.3 Mixed between-within subjects analysis of variance

The above results should lead us to conclude that at the end of the first academic semester the groups taking the two types of FAC (traditional and innovative) revealed statistically significant differences on some of the constructs of an ACC. However, it is not clear if these changes are caused by time, by type of FAC or by an interaction effect between time and type of FAC.

In order to examine further the differences identified between the constructs of an ACC, i.e., to evaluate the innovative FAC intended to improve students' intentions and other constructs of an ACC, a mixed between-within subjects ANOVA test was conducted. The purpose of this analysis is to investigate the impact of two independent variables – type of FAC (traditional and innovative) and time (beginning and end of semester) on scores of constructs of an ACC (dependent variables).

Tables 8.20 to 8.24 present the results of mixed between-within subjects ANOVA.

As shown in Table 8.20, there was no statistically significant change in intention scores between the beginning and the end of the first academic semester. The main effect for time was not statistically significant ($p=0.261$). However, there was a statistically significant difference in intention scores for the traditional and innovative FAC group ($p=0.010$). This supports the argument that there was a difference between the two types of FAC in terms of their effectiveness to improve the score of intention. Furthermore, there was a statistically significant interaction effect between time and group ($p=0.017$), which indicates that the change in intention scores over time was different for the two FAC groups.

Table 8.20: Intention-Results of mixed between-within subjects ANOVA

Source	Test	F-value	<i>P</i>	Eta-squared
Time	Within subjects	1.272	.261	.006
Type of course	Between subjects	6.732	.010	.031
time*course		5.793	.017	.026

As shown in Table 8.21, there was a significant change in subjective norm score between the beginning and the end of the first academic semester. The main effect for time was significant ($p=0.000$). Also, there was a statistically significant difference in

subjective norm score for the two groups (traditional vs. innovative) ($p=0.019$). This supports the argument that there was a difference between FACs in terms of their effectiveness to improve the score of subjective norm. There was no statistically significant interaction effect ($p=0.747$), which indicates that the change in subjective norm score over time was not different.

Table 8.21: Subjective Norm – Results of mixed between-within subjects ANOVA

Source	Test	F-value	<i>P</i>	Eta-squared
Time	Within subjects	12.779	.000	.057
Type of course	Between subjects	5.542	.019	.026
time*course		.104	.747	.000

As shown in Table 8.22, there was no statistically significant change in intrinsic dimension of attitude score between the beginning and the end of the first academic semester. The main effect for time was not significant ($p=0.884$). However, there was a statistically significant difference in intrinsic dimension score for the traditional and innovative group ($p=0.007$). This result supports the argument that there was a difference between FACs in terms of their effectiveness to improve the score of intrinsic dimension. Furthermore, there was a significant interaction effect between time and group ($p=0.032$), which indicates that the change in intrinsic dimension scores over time was different for the two groups.

Table 8.22: Intrinsic dimension – Results of mixed between-within subjects ANOVA

Source	Test	F-value	<i>P</i>	Eta-squared
Time	Within subjects	.021	.884	.000
Type of course	Between subjects	7.342	.007	.035
time*course		4.681	.032	.023

As shown in Table 8.23, there was not any statistically significant change in prestige dimension of attitude scores across the beginning and the end of the first academic semester and between the two types of FACs. The main effect for time and type of FAC was not significant ($p=0.161$ and $p=0.075$ respectively). However, there was a statistically significant difference in prestige dimension scores for the interaction effect between time and type of course ($p=0.041$). This means that the change in prestige dimension scores over the first semester was different for the two groups.

Table 8.23: Prestige dimension – Results of mixed between-within subjects ANOVA

Source	Test	F-value	<i>P</i>	Eta-squared
Time	Within subjects	1.979	.161	.010
Type of course	Between subjects	3.197	.075	.016
time*course		4.223	.041	.020

As shown in Table 8.24, there was no statistically significant change in perceived control score between the beginning and the end of the first academic semester and between the two types of accounting courses. The main effect for time and type of FAC was not significant ($p=0.053$ and $p=0.065$ respectively). However, there was a significant difference in the perceived control score for the interaction effect between time and type of course ($p=0.001$). This means that the change in perceived control score over the first semester was different for the two groups.

Table 8.24: Perceived control – Results of mixed between-within subjects ANOVA

Source	Test	F-value	<i>P</i>	Eta-squared
Time	Within subjects	3.783	.053	.018
Type of course	Between subjects	3.436	.065	.016
time*course		10.949	.001	.050

Based on the above results and the preceding analyses (Sections 8.5, 8.6 and 8.8.1), it can be concluded that the two types of FAC, traditional and innovative, have caused the differences in the scores of the ACC constructs directly or through their interaction with time.

Hypothesis 11: Students in the innovative FAC will have more favourable intention, subjective norm, attitude and perceived control than students in the traditional FAC, measured across the two time periods (beginning and end of the semester).	Partly supported
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8.9 Differences in confounding variables between traditional and innovative FACs

Statistical analysis was conducted to identify how students perceived the FAC in traditional and innovative FACs.

Table 8.25 shows that the students in the innovative FAC group ranked the perception of the FAC higher than those in the traditional FAC group.

Table 8.25: Descriptive statistics – Perception of FAC

ATEI	N	Mean	Std. Deviation	Minimum	Maximum
Athens	61	3.5310	.59391	2.44	4.89
Piraeus	26	3.2350	.85452	1.00	5.00
Chalkida	26	2.8333	.69513	1.56	4.44
Patra	22	3.0111	.80263	1.36	4.22
Larisa	28	3.0516	.68325	1.56	4.22
Kozani	34	2.7778	.82787	1.33	4.56
Seres	8	2.9861	.82603	2.11	4.78
Total	205	3.1375	.77416	1.00	5.00

One-way ANOVA was used to identify statistically significant differences in the mean scores of perception of FAC among students across the different ATEIs. The significance level for Levene's test (Table 8.26) is greater than .05 and therefore the assumption of homogeneity of variance was not violated.

Table 8.26: Test of homogeneity of variances

Levene's Test	df1	df2	<i>P</i>
.771	6	198	.593

There was a statistically significant difference at the $p < .05$ level in perception of FAC score, among the seven ATEIs, as shown in Table 8.27.

Table 8.27: ANOVA test of different ATEIs concerning perception of FAC

	Sum of Squares	df	Mean Square	F	<i>P</i>
Between Groups	17.238	6	2.873	5.416	.000
Within Groups	105.026	198	.530		
Total	122.263	204			

Post hoc comparisons using the Tukey HSD test (Table 8.28) indicates that the mean score for the ATEI Athens ($M=3.53$, $SD=.59$) was significantly different from that for the ATEI Chalkida ($M=2.83$, $SD=.70$) and the ATEI Kozani ($M=2.78$, $SD=.83$). All other ATEIs did not differ significantly.

Table 8.28: Multiple comparisons – Tukey HSD for perception of FAC

ATEI	ATEI	Mean Difference	Std. Error	P	95% Confidence Interval	
					Lower Bound	Upper Bound
Athens	Piraeus	.29592	.17058	.594	-.2122	.8041
	Chalkida	.69763(*)	.17058	.001	.1895	1.2058
	Patra	.51985	.18112	.067	-.0197	1.0594
	Larisa	.47938	.16625	.065	-.0159	.9746
	Kozani	.75319(*)	.15587	.000	.2889	1.2175
	Seres	.54485	.27386	.425	-.2710	1.3607
	Athens	-.29592	.17058	.594	-.8041	.2122
Piraeus	Chalkida	.40171	.20200	.425	-.2000	1.0034
	Patra	.22393	.21098	.938	-.4046	.8524
	Larisa	.18346	.19836	.968	-.4074	.7743
	Kozani	.45726	.18974	.200	-.1080	1.0225
	Seres	.24893	.29446	.980	-.6282	1.1261
	Athens	-.69763(*)	.17058	.001	-1.2058	-.1895
	Piraeus	-.40171	.20200	.425	-1.0034	.2000
Chalkida	Patra	-.17778	.21098	.980	-.8063	.4507
	Larisa	-.21825	.19836	.927	-.8091	.3726
	Kozani	.05556	.18974	1.000	-.5097	.6208
	Seres	-.15278	.29446	.999	-1.0299	.7244
	Athens	-.51985	.18112	.067	-1.0594	.0197
	Piraeus	-.22393	.21098	.938	-.8524	.4046
	Chalkida	.17778	.21098	.980	-.4507	.8063
Patra	Larisa	-.04048	.20750	1.000	-.6586	.5776
	Kozani	.23333	.19928	.904	-.3603	.8270
	Seres	.02500	.30069	1.000	-.8707	.9207
	Athens	-.47938	.16625	.065	-.9746	.0159
	Piraeus	-.18346	.19836	.968	-.7743	.4074
	Chalkida	.21825	.19836	.927	-.3726	.8091
	Patra	.04048	.20750	1.000	-.5776	.6586
Larisa	Kozani	.27381	.18586	.760	-.2799	.8275
	Seres	.06548	.29197	1.000	-.8043	.9352
	Athens	-.75319(*)	.15587	.000	-1.2175	-.2889
	Piraeus	-.45726	.18974	.200	-1.0225	.1080
	Chalkida	-.05556	.18974	1.000	-.6208	.5097
	Patra	-.23333	.19928	.904	-.8270	.3603
	Larisa	-.27381	.18586	.760	-.8275	.2799
Kozani	Seres	-.20833	.28619	.991	-1.0609	.6442
	Athens	-.54485	.27386	.425	-1.3607	.2710
	Piraeus	-.24893	.29446	.980	-1.1261	.6282
	Chalkida	.15278	.29446	.999	-.7244	1.0299
	Patra	-.02500	.30069	1.000	-.9207	.8707
	Larisa	-.06548	.29197	1.000	-.9352	.8043
	Kozani	.20833	.28619	.991	-.6442	1.0609

* The mean difference is significant at the .05 level

Statistical analysis was conducted to identify differences in the mean scores of impression of accounting educator among different ATEIs. Students at the ATEI Athens ranked higher on the variable impression of accounting educator, followed by students

at the ATEI Piraeus, ATEI Kozani, ATEI Larisa, ATEI Patra, ATEI Chalkida and ATEI Seres.

Table 8.29: Descriptive statistics – Impression of accounting educator

ATEI	N	Mean	Std. Deviation	Minimum	Maximum
Athens	65	4.2015	.55127	2.40	5.00
Piraeus	26	4.0538	.41687	3.00	4.90
Chalkida	27	3.8037	.45105	3.00	4.70
Patra	22	3.8182	.57952	2.30	4.70
Larisa	27	3.8444	.61914	2.60	5.00
Kozani	36	4.0431	.54865	3.00	5.00
Seres	8	3.6125	.57430	2.70	4.40
Total	211	3.9974	.55785	2.30	5.00

One-way ANOVA was used to identify statistically significant differences in mean scores for impression of accounting educator among students across the different ATEIs. The significance level for Levene's test (Table 8.30) is greater than .05 and therefore the assumption of homogeneity of variance has not violated.

Table 8.30: Test of homogeneity of variances

Levene's Test	df1	df2	<i>P</i>
1.124	6	204	.350

There was a statistically significant difference at the $p < .05$ level in impression of FAC score, among the seven ATEIs, as shown in Table 8.31.

Table 8.31: ANOVA test between different ATEIs concerning accounting educator

	Sum of Squares	df	Mean Square	F	<i>P</i>
Between Groups	6.403	6	1.067	3.693	.002
Within Groups	58.948	204	.289		
Total	65.351	210			

Post hoc comparisons using the Tukey HSD test (Table 8.32) indicate that only the mean score of impression of accounting educator at the ATEI Athens ($M=3.53$, $SD=.59$) was significantly different from that of the ATEI Chalkida ($M=2.83$ $SD=.70$). All other ATEIs did not differ significantly on the scores of impression of accounting educator.

Table 8.32: Multiple comparisons (Tukey HSD) for accounting educators

ATEI	ATEI	Mean Difference	Std. Error	P	95% Confidence Interval	
					Lower Bound	Upper Bound
Athens	Piraeus	.14769	.12474	.900	-.2238	.5192
	Chalkida	.39783(*)	.12308	.024	.0313	.7644
	Patra	.38336	.13259	.063	-.0115	.7782
	Larisa	.35709	.12308	.062	-.0094	.7236
	Kozani	.15848	.11168	.791	-.1741	.4911
	Seres	.58904	.20141	.058	-.0108	1.1888
	Seres	.58904	.20141	.058	-.0108	1.1888
Piraeus	Athens	-.14769	.12474	.900	-.5192	.2238
	Chalkida	.25014	.14770	.621	-.1897	.6900
	Patra	.23566	.15572	.737	-.2281	.6994
	Larisa	.20940	.14770	.792	-.2305	.6493
	Kozani	.01079	.13835	1.000	-.4012	.4228
	Seres	.44135	.21733	.399	-.2059	1.0886
	Seres	.44135	.21733	.399	-.2059	1.0886
Chalkida	Athens	-.39783(*)	.12308	.024	-.7644	-.0313
	Piraeus	-.25014	.14770	.621	-.6900	.1897
	Patra	-.01448	.15439	1.000	-.4743	.4453
	Larisa	-.04074	.14630	1.000	-.4764	.3949
	Kozani	-.23935	.13685	.584	-.6469	.1682
	Seres	.19120	.21638	.975	-.4532	.8356
	Seres	.19120	.21638	.975	-.4532	.8356
Patra	Athens	-.38336	.13259	.063	-.7782	.0115
	Piraeus	-.23566	.15572	.737	-.6994	.2281
	Chalkida	.01448	.15439	1.000	-.4453	.4743
	Larisa	-.02626	.15439	1.000	-.4860	.4335
	Kozani	-.22487	.14547	.717	-.6581	.2083
	Seres	.20568	.22193	.968	-.4552	.8666
	Seres	.20568	.22193	.968	-.4552	.8666
Larisa	Athens	-.35709	.12308	.062	-.7236	.0094
	Piraeus	-.20940	.14770	.792	-.6493	.2305
	Chalkida	.04074	.14630	1.000	-.3949	.4764
	Patra	.02626	.15439	1.000	-.4335	.4860
	Kozani	-.19861	.13685	.773	-.6062	.2089
	Seres	.23194	.21638	.936	-.4124	.8763
	Seres	.23194	.21638	.936	-.4124	.8763
Kozani	Athens	-.15848	.11168	.791	-.4911	.1741
	Piraeus	-.01079	.13835	1.000	-.4228	.4012
	Chalkida	.23935	.13685	.584	-.1682	.6469
	Patra	.22487	.14547	.717	-.2083	.6581
	Larisa	.19861	.13685	.773	-.2089	.6062
	Seres	.43056	.21011	.387	-.1952	1.0563
	Seres	.43056	.21011	.387	-.1952	1.0563
Seres	Athens	-.58904	.20141	.058	-1.1888	.0108
	Piraeus	-.44135	.21733	.399	-1.0886	.2059
	Chalkida	-.19120	.21638	.975	-.8356	.4532
	Patra	-.20568	.22193	.968	-.8666	.4552
	Larisa	-.23194	.21638	.936	-.8763	.4124
	Kozani	-.43056	.21011	.387	-1.0563	.1952
	Kozani	-.43056	.21011	.387	-1.0563	.1952

* The mean difference is significant at the .05 level.

The above results have enhanced the internal validity of the study in that the presentation by accounting practitioners of information about the AP influenced the constructs of the ACC but not the accounting educators.

8.10 Summary

This chapter has found empirical support for the effect of two types of FAC on the constructs of an ACC at the end of the first academic semester. The traditional FAC was shown to have affected statistically significant negative the score of perceived control over pursuing a career in the AP and statistically significant slightly negative the scores of the intrinsic dimension of attitude. However, students in the traditional FAC indicated a statistically significant improvement on score of subjective norm. Students' scores on intention, attitude and extrinsic, prestige and social dimension of attitude remained stable.

Students in the innovative FAC did not indicate any statistically significant deterioration on their scores for any construct of an ACC. They indicated statistically significant positive changes on their scores for intention, subjective norm, attitude and prestige dimension, while their scores for extrinsic, intrinsic and social dimension of attitude and perceived control to be an accountant were not affected in a statistically significant way.

At the end of the FAC significant differences were found between traditional and innovative FAC groups concerning the constructs of an ACC. Statistically significant differences were identified on scores of intention, intrinsic and prestige dimension of attitude, overall attitude and perceived control between the two groups. Mixed between-within subjects ANOVA tests concluded that the type of FAC and the interaction effect of time and type of FAC caused the identified differences.

The next chapter is based on the results reported in Chapters 7 and 8 and discusses the study's findings in relation to existing accounting, behavioural and work value literature.

Chapter 9.

DISCUSSION OF RESEARCH FINDINGS

9.1 Introduction

Chapters 7 and 8 have statistically analysed the research data related to the ACC and the effect of the FAC on the constructs of an ACC. This chapter provides a general discussion of the study's findings in relation to previous literature and in accordance with hypotheses and expected results. This chapter is divided into five sections. The next section, Section 9.2, evaluates the integrated theoretical framework to predict students' intention to pursue an accounting career. Section 9.3 presents the differences between students with negative, neutral and positive intention to pursue a career in the AP as they derive from the constructs and sub-constructs of an ACC. Section 9.4 discusses the effects of a traditional and an innovative FAC respectively on students' intentions and ACC constructs and sub-constructs. In addition, it presents the differences on students' ACC constructs after attending a traditional or innovative FAC respectively. The final Section 9.5 outlines the main conclusions drawn from this chapter.

9.2 Model of an ACC

The literature review has identified several issues related to students' ACC that require further research and discussion from both conceptual and methodological viewpoints. The past literature's wide variation in conceptual and operational issues concerning the constructs of an ACC limits our understanding of students' ACC. For instance, previous accounting research has identified the different constructs of an ACC (Paolillo and Estes, 1982; Inman et al., 1989; Cory, 1992), and has investigated these diverse constructs (Adams et al., 1994; Felton et al., 1994; Ahmed et al., 1997; Auyeung and Sand, 1997) but has not examined these taking an integrated approach. Even descriptive-explanatory research has largely focused on identifying and describing the factors that affect an ACC (Nelson and Vondrzyk, 1996; Marriott and Marriott, 2003; Fedoryshyn and Tyson, 2003) rather than exploring the potential dynamics of factors and their impact on intention and final decision towards pursuing an accounting career.

The first aim of this thesis was to develop and evaluate a new integrated theoretical model linking all the main constructs of an ACC in order to predict students' intention to pursue a career in the AP. In this research, the use of combined theories provides a comprehensive integrated framework to analyse the accounting career decision making. A conceptual strength of the present study is that it has highlighted the need to understand more holistically the ACC and the different constructs involved. The integrated theoretical framework of the study accommodates the dynamic and interactional nature of an ACC and allows for a meaningful grouping of what has been a disparate body of research.

The new proposed theoretical model (Section 4.3.3, Figure 4.7) has identified subjective norm (normative beliefs concerning the pursuit of a career in the AP and motivation to comply with significant others), attitude (beliefs concerning the attributes and outcomes associated with the AP and work values) and perceived control (self-efficacy beliefs concerning the pursuit of a career in the AP and importance of possessing the specific self-efficacies) as the factors that affect an ACC (Fishbein and Ajzen, 1975; Ajzen, 1991).

Methodologies and measures will always be varied in their design. There is a diverse range of research methodologies and measures used in the investigation of an ACC. Although mainly quantitative methodologies have been used, only a limited number of measures for the constructs of an ACC are available (Nelson, 1991; Cohen and Hanno, 1993; Felton et al., 1995) and furthermore, these measures present validation problems (Nelson and Vondrzyk, 1996; Marriott and Marriott, 2003).

A methodological strength of the present thesis is that new validated measures have been developed and used for the constructs of an ACC. The new measures have been supported both theoretically and methodologically (Section 6.6.1).

9.2.1 Evaluating the model of an ACC

This study was based on the well-established theories of planned behaviour and work values and also builds on previous accounting research, and it has assumed that subjective norm, attitude and perceived control are all significant predictors of management students' intention to pursue a career in the AP. Consistent with the theory of planned behaviour (Ajzen, 1991), the intention to pursue an accounting career was predicted very well from management students' subjective norm concerning the pursuit of a career in the AP, from personal attitude towards pursuing a career in the AP and from students' perceived control over being an accountant. This is in line with

arguments in the educational and vocational literature (Strader and Katz, 1990; Krueger et al., 2000; Davis et al., 2002) and findings reported by other accounting researchers (Cohen and Hanno, 1993; Allen, 2004; Tan and Laswad, 2006).

Based on the 586 questionnaires of the survey at the beginning of the first academic semester, the result of the standard regression model ($R=.665$, $R^2=.442$ at a significance level $p=0.000$) indicated that all of the three constructs of an ACC which were investigated in this study are highly correlated with the prediction of an intention to pursue an accounting career. In addition, the internal validity of this thesis was strengthened when the results of the 485 questionnaires of the second survey, at the end of the first academic semester, indicated again that the three predictors are highly correlated with intention ($R=.762$, $R^2=.581$ at a significant level $p=0.000$).

However, when applying stepwise regression at the beginning of the FAC in order to evaluate the predictive validity of sub-dimensions of attitude, the extrinsic and social dimensions of attitude were found not to contribute to the prediction of intention. The prestige dimension marginally contributed to the prediction of intention. Hierarchical stepwise regression, at the end of the semester, indicates that only subjective norm, intrinsic dimension of attitude and perceived control are significant predictors of intention. In addition, at the end of the semester, controlling for the effect of the variables impression of accounting educator and perception of the FAC, the variable perception of the FAC made a significant contribution to the total amount of variance accounted for in scores on intention.

Therefore, the discussion below is based on the results of multiple regression analyses (stepwise and hierarchical) and presents the contribution of different constructs and sub constructs of ACC in the prediction of students' intention to pursue a career in the AP.

9.2.1.1 Subjective norm concerning pursuit of career in the AP

From the experience survey and previous accounting research, it has been identified that management students consider the opinions of parents and other members of their family, friends, peers, society and teachers, when they come to make a decision about their future profession (Paolillo and Estes, 1982; Gul et al., 1989; Kamran et al., 1997). Normative beliefs (the specific beliefs of significant others concerning the student pursuing a career in the AP) and students' motivation to comply with significant others' beliefs are involved in the formation of subjective norm construct. The stronger the combination (product) of normative belief and motivation to comply, the more

management students intended to pursue an AC (Fishbein and Ajzen, 1975; Ajzen, 1991).

Hypothesis 1 examined the association of subjective norm with management students' intention to pursue a career in the AP. Specifically hypothesis 1 suggested that intention will be strongly predicted by students' subjective norm concerning the pursuit of a career in the AP. All the study's findings at the beginning ($b=.316$, $t=8.665$, $p<0.000$) and at the end ($b=.345$, $t=10.033$, $p<0.000$) of the first semester confirm that subjective norm is a significant positive predictor of intention, as hypothesized. In other words, if students' significant others support an accounting career choice and students are motivated to comply with significant others, then they will be highly likely to have a positive intention to pursue a career in the AP.

The results of this study support previous behavioural research using the theory of planned behaviour, stating that subjective norm is a significant predictor of intention (Strader and Katz, 1990; Krueger et al., 2000; Davis et al., 2002). Furthermore, the finding that the subjective norm construct is a significant predictor of the intention to pursue an accounting major, at the beginning of their studies, is consistent with previous accounting research (Cohen and Hanno, 1993; Allen, 2004; Tan and Laswad, 2006).

9.2.1.2 Attitude towards pursuing a career in the AP

Attitude towards pursuing a career in the AP is assumed to be determined by beliefs concerning the attributes and outcomes associated with the AP, each belief weighted by the subjective value of the outcome in question (Fishbein, 1963; Fishbein and Ajzen, 1975). In this research, attitude towards pursuing a career in the AP has been conceptualized following the expectancy value model (Fishbein, 1963; Feather, 1982) and has been operationalized based on the theory of work values (Super, 1957, 1970, 1981; Ros et al., 1999). While the theory of planned behaviour concentrates on a general decision-making process and gives general instructions concerning the identification of beliefs and their evaluative aspect for the measurement of attitude towards performing a specific behaviour, work value theory provides a specific context and meaning to vocational beliefs and their evaluative aspects.

In this study, the multidimensional construct of attitude has been measured based on its analytical constructs: beliefs concerning the attributes and outcomes associated with the AP and work values (Tourna and Hassall, 2006). This is the first study where the dimensions and sub-dimensions of vocational attitude towards pursuing a career in

the AP have been operationalized and measured. The four distinct dimensions of attitude: that have been identified are extrinsic, intrinsic, prestige and social dimension.

Hypothesis 2 and sub-hypotheses 2a, 2b, 2c and 2d have examined the association of attitude and its dimensions with management students' intention to pursue a career in the AP. Specifically, hypothesis 2 suggested that intention will be strongly predicted by students' attitude towards pursuing an accounting career.

All the study's findings at the beginning ($b=.146$, $t=3.653$, $p<0.000$) and at the end ($b=.092$, $t=2.296$, $p<0.020$) of the first semester confirm that attitude is a significant positive predictor of intention, as hypothesized. In other words, if a student has a positive attitude towards pursuing an accounting career, then that student will be highly likely to have a positive intention to pursue a career in the profession.

These results are in line with previous studies which have investigated the association of attitude and intention in another research setting (Strader and Katz, 1990; Reinecke et al., 1996; Krueger et al., 2000; Hrubes et al., 2001; Davis et al., 2002). Furthermore, this study's results regarding attitude as a critical construct of an ACC are similar to previous studies' findings that have adopted the theory of planned behaviour (Cohen and Hanno, 1993; Allen, 2004; Tan and Laswad, 2006).

Sub-hypotheses 2a, 2b, 2c and 2d examined the association of extrinsic, intrinsic, prestige and social dimension of attitude with students' intention, respectively. Specifically, all these hypotheses suggested that the four dimensions of attitude towards pursuing an AC would have an association with management students' intention.

The results of the study do not support sub-hypothesis 2a that the extrinsic dimension of attitude has a statistically significant association with intention to pursue a career in the AP, neither at the beginning nor at the end of the FAC. This finding was contrary to what should have been expected, as beliefs associated with the extrinsic attributes and outcomes of the AP (job security, economic rewards and work conditions / autonomy) have been identified as dominant beliefs in the present study (Fishbein, 1963; Fishbein and Ajzen, 1975).

The results of the study fully support sub-hypothesis 2b that the intrinsic dimension of attitude has a statistically significant association with intention to pursue an accounting career at the beginning ($b=.309$, $t=7.511$, $p<0.000$) and at the end ($b=.161$, $t=4.131$, $p<0.000$) of the first semester. This finding was consistent with what should have been expected, as beliefs associated with the intrinsic attributes and outcomes of the AP (nature of accounting job and using and developing business skills in the accounting job) have been identified as dominant beliefs.

The results of the study marginally support sub-hypothesis 2c that the prestige dimension of attitude has a statistically significant association with intention to pursue an accounting career. Prestige dimension made a marginal contribution at the beginning of the semester ($b = -.077$, $t = -2.110$, $p < 0.040$). This indicates that students' prestige dimension of attitude is a marginally negative predictor of intention only at the beginning of the semester. At the end of the semester, the prestige dimension did not contribute significantly to the prediction of intention. This finding was contrary to what should have been expected as beliefs associated with the prestige attributes and outcomes of the AP (advancement, decision making and social status) have been identified as dominant beliefs.

The results of the study do not support sub-hypothesis 2d that the social dimension of attitude has a significant association with intention to pursue a career in the AP, neither at the beginning nor at the end of the FAC. This finding was consistent with what should have been expected as beliefs concerning the social attributes and outcomes associated with the AP (work with others and contribution to society) have not been identified as dominant beliefs.

The theory of planned behaviour has emphasized the importance of dominant beliefs for the measurement of attitude. Previous studies, using the theory of planned behaviour as a theoretical framework, in a general setting or in an accounting setting, have elicited the dominant beliefs and computed the attitude based on these dominant beliefs as a whole. These studies did not examine and compute the different underlying dimensions of the attitude; therefore existing differences in dimensions concerning the prediction of intention were not able to be identified and compared.

Summarizing of attitude towards pursuing an accounting career, it seems in the present educational context that it contributes significantly to the prediction of students' intention to pursue an accounting career in a strong and consistent manner. However, more detailed statistical analysis of ability of dimensions of attitude to predict intention has revealed that only the intrinsic dimension of attitude contributes to the prediction of intention in a strong and consistent manner. It seems, therefore, that only the intrinsic dimension of attitude is a significant predictor of students' intention to pursue an accounting career during the first semester of their studies, even when it is not consciously recognized as such. Possible justification for the contribution of only the intrinsic dimension in the prediction of intention is that management students at the beginning of their studies believe that there are no significant differences concerning the extrinsic, prestige and social attributes and outcomes associated with the AP. However,

management students do believe that there are considerable differences concerning the intrinsic attributes and outcomes associated with the AP. Specifically, they believe that accounting professionals perform distinctly different job functions and they need to use and develop differentiated skills and abilities in order to succeed into the AP. Therefore, it is of great importance how students perceive the nature of an accounting job, and through the FAC during the first academic semester as it is this perception that their choice of the accounting profession depends on. Accounting researchers have pointed out the importance of beliefs about the nature of an accounting job and the skills and abilities needed by accountants (Friedlan, 1995; Saeman and Crooker, 1999; Byrne and Willis, 2005) and the effect of accounting courses on these beliefs (Friedlan, 1995; Caldwell et al., 1996; Saudagaran, 1996; Mladenovic, 2000). However, accounting research has not investigated how these beliefs in connection with work values affect attitude and intention to pursue a career in the AP using an integrated approach.

More research on the relationship between the different dimensions of attitude and students' intention to pursue an accounting career is necessary in the different stages of the process of their career choice. The relationship between extrinsic and prestige dimensions and intention may not be of considerable strength in the present time context, at the beginning of the management studies, but it may acquire importance in different stages of ACC. As Super (1953, 1957, 1980) and other researchers (e.g., Hartung et al., 2005) have suggested, career choice is a developmental process and at different stages individuals may use different criteria to make career decisions. Researchers such as Powel (1991), Phillips et al. (1994) and Moy and Lee (2002), who have studied the job attributes that affect job choice decisions of business graduates and entry level business professionals, have indicated that extrinsic and prestige attributes and outcomes were the main considerations for them in selecting initial jobs.

9.2.1.3 Perceived control over pursuing career in the AP

According to the theoretical framework of the study, the perceived control construct consists of two critical elements: self-efficacy beliefs concerning the pursuit of a career in the AP and students' evaluation of the importance of possessing the relevant vocational self-efficacies. Four factors were identified in the experience survey that might interfere with pursuing a career in the AP: ability and skills to perform the accounting job, degree relevant to the AP, finding a job as accountant and ability to pass the professional accounting exams. Factor analysis revealed that the item "find a job as

accountant” does not hang together with the other self-efficacies; therefore it should be excluded from further analysis.

Hypothesis 3 examined the association of perceived control with management students’ intention to pursue a career in the AP. Specifically hypothesis 3 suggested that students’ intention will be strongly predicted by their perceived control. All the study’s findings at the beginning ($b=.374$, $t=9.910$, $p<0.000$) and at the end ($b=.394$, $t=9.300$, $p<0.000$) of the first semester confirm that perceived control is the most significant predictor of intention, as hypothesized. In other words, if students feel that they have control over their choice or decision to be an accountant, then they will be highly likely to have the positive intention to pursue a career in the profession.

Bandura et al. (2001) have supported the notion that

the higher people’s perceived efficacy to fulfil educational requirements and occupational roles, the wider the career options they seriously consider pursuing, the greater the interest they have in them, the better they prepare themselves educationally for different occupational careers, and the greater their staying power in challenging career pursuits. (2001, p.188)

Students simply eliminate from consideration professions they believe to be beyond their capabilities, however attractive they may be. The present data confirm that management students who believe that they have neither the abilities and skills needed by the profession, nor can qualify as accountants (relevant degree and passing professional exams) are unlikely to pursue a career in the AP, even though they may have support from significant others and a positive attitude towards pursuing an accounting career.

The results of this study support the finding of previous educational behavioural research using the theory of planned behaviour that perceived control is the most significant predictor of intention and behaviour towards specific action (Davis et al., 2002). Researchers in other educational settings have demonstrated that self-efficacy beliefs strongly influence the choice of major and career decisions of college and university students (Hackett and Betz, 1989; Pazares, 1996). The findings are in line with Bandura et al. (2001) that in comparison with the expectancy-value model (Fishbein, 1963), self-efficacy beliefs contributed more heavily to occupational preferences than attitude (outcome expectations). Bandura (1986) and Lent et al. (1994) have reported correlation coefficients ranging from 0.3 to 0.6 between self-efficacy and career intention. The correlation coefficients of perceived control in this study were .374 at the beginning and .394 at the end of the FAC.

Prior accounting research studies have reported mixed results for the relationship of students' performance in an introductory accounting course and their decision to select accounting as their major (Cohen and Hanno, 1993; Stice et al., 1997). The findings of this study are in line with research contending that perceived control is a significant predictor of intention (Cohen and Hanno, 1993; Geiger and Ogilby, 2000; Allen, 2004; Tan and Laswad, 2006). Moreover, according to Allen (2004) and Tan and Laswad (2006), perceived control has a higher standardized regression coefficient among the three constructs of an ACC as also identified by the current study.

9.2.1.4 Confounding variables

A number of authors have raised the issue of the impact of the perception of the FAC (Baldwin and Ingram, 1991; Garner and Dombrowski, 1997; Mauldin et al., 2000) and the impression of the accounting educator (Albrecht and Sack, 2001) on an ACC. The underlying assumption is that to influence students' intention to pursue an accounting career and therefore attract them into the AP, students need to create a positive perception of the FAC and a positive impression of his/her accounting educator.

This study has controlled for the effect of these two confounding variables on students' ACC. Concerning the variable "perception of the FAC", the findings confirmed the association between students' perceptions of the FAC and their intention to pursue a career in the AP. Furthermore, there was some score value differential in the size of the association of intrinsic dimension at the beginning and at the end of the semester with students' intention. This score differential is related to the association of students' perception of the FAC with their intention and its ability to significantly contribute to the prediction of intention at the end of the semester ($b=.142$, $t=3.577$, $p<0.000$). Statistical tests revealed a mediating effect between intrinsic dimension and perception of FAC variables in the prediction of intention. The FAC partially mediated the relationship between the intrinsic dimension and the intention to pursue a career in the AP. This suggests that both the FAC and the intrinsic dimension contribute to students' intention in a complementary manner. Attending the FAC is important for the development of students' opinions about the nature of an accounting job and the business skills and knowledge required of accountants.

On the other hand, the impression of accounting educator did not contribute directly to the prediction of intention, because that relationship was proved non-significant. The importance of this finding is that the impression of the accounting educator does not seem to be associated with students' intention directly (through

his/her personality, recruitment and teaching ability), but possibly indirectly through the development of students' perception of the FAC (see Geiger and Ogilby, 2000; Mauldin et al., 2000) and through the dimension SN teacher as a role model (see Albrecht and Sack, 2000). However, it would be premature to accept this conclusion until this finding is replicated in future research, which must systematically investigate the mediating effects and relative contributions of perception of FAC and impression of accounting educator on students' intention to pursue the AP.

9.3 Explaining differences in management students' intentions to pursue a career in AP at beginning of FAC

The present study was designed to predict students' intention to pursue an accounting career using as main variables subjective norm, attitude and perceived control. In addition, the design of the study permits the detailed investigation of the dimensions of the main construct and the investigation of sub-constructs of an ACC that ultimately are assumed to determine the differences on students' scores of intention.

Since all three main constructs of an ACC made significant contributions to the prediction of intention to pursue a career in the AP, a more detailed examination was conducted to identify differences on the dimensions, sub-dimensions and sub-constructs of ACC. The following discussion takes into account that the sample consists of business students with a management major at the beginning of their studies.

The results showed that 46.3% of the students had a neutral intention, 36.6% had a negative intention and, interestingly, 17.1% had a positive intention to pursue an accounting career. These results suggest some important implications for accounting educators. One important implication is that at 46.3% there is a large percentage of undecided management students who can possibly be influenced by the different business courses to choose a profession during the subsequent years of their studies (Geiger and Ogilby, 2000; Mauldin et al., 2000). As Danziger and Eden (2006) reported, "students evaluate information and tend to keep their career options open". Therefore, accounting educators through the FACs have the opportunity and should try to influence undecided students from other disciplines and recruit them into the profession (Albrecht and Sack, 2000; Mladenovic, 2000).

Negative intentions were held by 36.6% of students and this finding was expected as they have chosen the management department in order to follow occupations more closely related to the management discipline.

However, it was surprising that 17.1% of students declared a positive intention to pursue a career in the AP at the beginning of their studies in a business administration department. This can perhaps be explained by reference to the Greek education system's practice of admission to universities (Gouvias, 1998). Due to the restrictions of the education system and the system of admissions to Greek higher education, a significant number of students who are considered to have "chosen" what to study have in fact settled for courses that lead to very different occupations than the ones they had wanted to follow in the first place (Kasimati, 1991). Due to the Greek educational system, some students with the positive intention of studying accounting may not attain the necessary grades to get into an accounting degree; therefore, as their second choice, they may choose to take a management degree (educational fetishism, Kiridis, 1997) and after graduation to specialize in accounting. The concept educational fetishism (Kiridis, 1997) denotes the turning of higher education into a fetish for Greek society, due to the perception of higher education degrees as a decisive factor in finding permanent employment and/or upward social mobility. However, it could also be the case that some students have deliberately chosen a management department in order to obtain a broader business background, although their future goal is to be accountants.

The next sub-sections present differences between students' groups of intention concerning the constructs and sub-constructs of an ACC and their underlying dimensions and sub-dimensions.

9.3.1 Differences in subjective norm

Hypothesis 4 examined the existing differences concerning the subjective norm between students with negative, neutral and positive intentions. Regarding the differences in subjective norm between students, the results were in line with expectations and with past research (Cohen and Hanno, 1994; Hartwell et al., 2005; Tan and Laswad, 2006). Overall, the total sample's mean score on the subjective norm construct was below the mid-point at the beginning of the first semester. In particular, students' negative intention to pursue an accounting career was supported by negative subjective norm below the mid-point (mid-point 13), students' neutral intention to pursue an accounting career was supported by subjective norm slightly below the mid-point and students' positive intention to pursue an accounting career was supported by strong positive subjective norm.

Furthermore, significant differences were identified between the four dimensions of subjective norm – SN family, SN friends / peers, SN society and SN teachers –

between students' groups of intention. In the negative intention group, the SN-family's mean has the highest score of all dimensions of subjective norm, followed by SN society, SN peers / friends and SN teachers. In the neutral and positive intention groups, the SN family's mean has the highest score, followed by SN society, SN teachers and SN peers / friends. All of the scores of the dimensions of subjective norm were below the mid-point (13) for all the groups of intention, except the sub-dimensions of family and society in the positive intention group. Interestingly, in all students' groups, SN family dimension has the highest mean score than all the other dimensions of subjective norm.

Further analysis was conducted to determine the existing differences between students' groups of intention concerning the sub-constructs – normative beliefs and motivation to comply – of an ACC. The analysis of these sub-constructs resulted in significant differences between groups of intention in normative beliefs concerning the pursuit of a career in the AP rather than to differences in motivation to comply with significant others. These findings are also supported by Cohen and Hanno (1993), Allen (2004) and Tan and Laswad (2006) results that students who intend to pursue an accounting career have indicated a positive subjective norm construct than students who do not intend.

Past accounting research has examined and reported the existence of differences in the normative beliefs of significant referents between accounting and non-accounting students (Paolillo and Estes, 1982; Inman et al., 1989; Gul et al., 1992). Concerning the normative beliefs of significant others, in all groups of intention in the present research, family and society were found to support more than all other referents the choice of a career in the AP. Interestingly, high school teachers were found to support the choice of an accounting career less than family and Greek society. The finding of this research is consistent with the results of Hardin et al. (2000) that high school teachers do not support an accounting career.

Regarding the sub-construct motivation to comply with significant referents, in all intention groups Greek management students were motivated most to comply with their families in their career choice and less with their peers/friends among all significant referents. These results may be related to Greek culture, as in Greek society family influence on occupational choice is very important since parents play a major role in organising their children's lives (see Kasimati, 1991).

Interestingly, significant differences were identified in motivation to comply with their families between students in positive and negative intentions groups. Students with

positive intention to follow an accounting career indicated stronger motivation to comply with their families' opinion than students in the negative intention group. These findings are similar to Tan and Laswad's (2006) results. In contrast, Cohen and Hanno (1993) reported no significant differences between accounting and non-accounting students' motivation to comply with all significant others.

To summarize, significant differences were identified concerning the subjective norm construct and sub constructs of an ACC and its dimensions between students' groups of intention. Detailed analysis revealed that these differences are mainly based in differences in normative beliefs than motivation to comply. Significant differences in motivation to comply with significant others were not identified, except in motivation to comply with the family between negative and positive groups of students. In all three groups of intention, families were the most supportive referents for their children to pursue a career in the AP. In contrast, friends and peers of management students were found to support the intention to pursue a career in the AP less than all other referents. The study's findings are consistent with previous literature, which showed that students with positive intention to pursue an accounting career are mainly influenced by parents and other members of their family (Inman et al., 1989; Maudlin et al., 2000), and less by high school teachers (Inman et al., 1989), the stereotype held by society (Cory, 1992) or friends and peers (Cangelosi et al., 1985).

9.3.2 Differences in attitude

At the beginning of the first academic semester the management students had mean score on attitude above the mid-point (mid-point 13). These results are in line with previous literature which showed that at the beginning of the first academic semester business and accounting students had a high overall average attitude score (Nelson and Vondryk, 1996; Marriott and Marriott, 2003). It is important to note that similar results were found concerning attitude towards pursuing an accounting career in the present study although the above studies used another measure of attitude, the AAS (Accounting Attitude Scale), which assesses overall global attitude towards the AP.

Hypothesis 5 examined the existing differences concerning the attitude between students with negative, neutral and positive intention. An ANOVA test revealed that significant differences exist between the three groups of intention. Furthermore, Hukey's test showed that the differences on attitude were significant between all three groups of intention. Regarding the differences in attitude among groups, the results are in line with expectations and with past research (Cohen and Hanno, 1994; Felton et al.,

1995; Tan and Laswad, 2006). In particular, students' negative intention to pursue an accounting career was supported by negative attitude below the mid-point (mid-point 13) and students' neutral and positive intention to pursue an accounting career was supported by positive attitude above the mid-point.

In order to investigate the differences in students' attitude in detail, further analysis was conducted for the dimensions of attitude. Interestingly, for the total sample the intrinsic dimension of attitude had the highest mean score of 15.51 (mid-point 13), followed by the prestige mean score of 13.83, extrinsic mean score of 13.47 and social dimension mean score of 13.28; therefore all dimensions of attitude had means above mid-point at the beginning of the FAC.

Hypotheses 5a, 5b, 5c and 5d examined existing differences concerning the dimensions of attitude between students with negative, neutral and positive intention. ANOVA tests resulted in significant differences among groups of intention concerning all the dimensions – extrinsic, intrinsic, prestige and social. However, as has already been argued, the statistical significance is partly a function of the sample size. The differences between groups of intention concerning the three sets of scores of extrinsic, prestige and social dimensions of attitude have had a quite small effect size (eta squared) that lacks practical significance. This means that the differences in extrinsic, prestige and social dimensions do not have practical implication as has already been identified, as all these dimensions are not statistically significant predictors of intention. One line of justification of the pattern regarding the differences on extrinsic, prestige and social dimensions of attitude between the three groups of intention can be provided on the basis of their underlying constructs. Beliefs concerning the extrinsic, prestige and social outcomes associated with the AP do not have statistically significant differences between groups. Furthermore, work values are consistent between the groups of intention. Therefore the scores of extrinsic, prestige and social dimensions do not have statistically significant differences.

Significant differences were identified concerning the intrinsic dimension of attitude and the eta squared was quite large. The intrinsic dimension of attitude was significantly different between management students with different intention of pursuing an accounting career. Students who intend to follow the profession had a mean score on intrinsic dimension of 19.22, undecided students a mean score of 16.32 and negative students a mean score of 12.74 (below the mid-point).

As there is no previous research to compare the present results on the identified dimensions and in order to shed more light on the constructs of attitude towards

pursuing a career in the AP, detailed analysis was conducted which examined the beliefs of students concerning the attributes and outcomes associated with the AP and their work values (preferred job characteristics).

9.3.2.1 Differences in beliefs concerning attributes and outcomes associated with the AP

First, the study has investigated the accounting beliefs that provide the basis for the calculation of perception and of attitude towards the AP (Rokeach, 1973; Fishbein and Ajzen, 1975; Bandura, 1986). The 30 individual beliefs used to evaluate the attributes and outcomes associated with the AP have been categorized along four main dimensions and nine sub-dimensions based on the theory of work values and on the factor analysis conducted using the present data. The main dimensions of beliefs are extrinsic, intrinsic, prestige and social (Ross et al., 1999) and the sub-dimensions (according to the results of factor analysis) are job security/economic rewards, work conditions, autonomy, nature of accounting job, developing business skills, advancement in business position, social status, work with others and contribution to society (Pryor, 1983; Nevill and Super, 1986; Elizur et al., 1991; Ros et al., 1999).

The sum of the scores of all thirty individual beliefs concerning the attributes and outcomes associated with the AP gives the measure of perception of the AP (Tourné et al., 2006). Concerning the perception of the entire sample, it was positive at 3.37 above the mid-point (3.0). This indicates that the whole sample has scored higher than mid-point on most of the individual belief-items concerning the attributes and outcomes associated with the profession. Overall, management students indicated that intrinsic attributes and outcomes are more associated with the accounting profession mean score 3.55 (mid-point 3), followed by prestige outcomes mean score 3.28, extrinsic outcomes mean score 3.17 and social outcomes mean score 2.60. This result is similar to the results of Caldwell et al. (1996), Hunt et al. (2004) and Hartwell et al. (2005). Unsurprisingly, the results regarding differences in the perception of the accounting profession held by students with negative, neutral and positive intention revealed that students with positive intentions generally hold a more positive perception, followed by undecided students and by students with negative intentions (Aranya et al., 1978; Fisher and Murphy, 1995). However, it is important to note that the negative group had a mean score in perception of the AP marginally above the mid-point.

An inspection of individual belief-items for attributes and outcomes associated with the AP revealed that for the total sample of management students the three high

scoring items were that accounting profession provides the chance of personal growth through seminars and other courses mean score 3.90, accountants use business knowledge and skills to do their job mean score 3.82 and accountants interact and cooperate with a lot of people mean score 3.77. Therefore, the belief-items that accountants have the chance of personal growth and that they use business knowledge and skills to do their job have affected the total results of intrinsic beliefs and of the intrinsic dimension of attitude. Although there is agreement among students that the accounting profession offers opportunities for professional growth and for developing business skills, interesting differences concerning their other intrinsic beliefs have emerged between those students who intend and those who do not intend to pursue an accounting career. Students with positive intention had higher scores on the items nature of the accounting job, accounting job is relevant to management studies and accounting job helps to develop business skills (all these items have a mean score from 4.25 to 4.40) than all the other belief-items of the scale. This finding is consistent with Hermanson et al.'s (1995) results that students who intend to follow the profession mainly believe that an accounting job is interesting and creative, involves business skills and provides for professional growth. In contrast, students in the negative intention group had lower scores that the above-mentioned intrinsic outcomes are associated with the AP (with all these items having a mean score from 2.20 to 3.42) than on all the other belief-items of the scale of perception. Students with negative intention refuse to pursue a career in the profession because they perceive it as boring, dull and not related to management studies as they hold to the traditional stereotype of the accounting job as it has been described by many accounting researchers (Cory, 1992; AICPA, 2000; Coate et al., 2003; Dimnik and Felton, 2004).

Management students ranked lower than the mid-point, the belief-items that accounting jobs do not have stress mean score 2.55, accountants work slowly on their own pace mean score 2.94 (see Pollock et al., 2002; Tourna et al., 2006) and that the accounting profession is on a par with law, medicine and engineers mean score 2.73 (see Allen, 2004; Marriott and Marriott, 2004; Byrne and Willis, 2005). Concerning the belief-items of independence/autonomy and social status of Greek accountants that have been ranked lower than all other attributes and outcomes associated with the AP, there are some possible explanations. The low scores on belief-items regarding the independence/autonomy of Greek accountants can be explained by the fact that usually Greek accountants used to have more than one job and also that Greek accounting offices have many clients and are staffed by few employees who can not adequately

serve all their clients. Furthermore, the structure of the accounting and taxation system in Greece imposes an additional burden on accountants. Tax deadlines, rules and regulations are constantly updated, and the Greek taxation system is not computer-friendly. Greek taxation law and tax offices set a specific date by which Value Added Tax (VAT) and personal taxes have to be submitted, thus meeting deadlines is very important since otherwise financial penalties may be incurred. All the above issues create extra requirements, workload and pressure for Greek accountants.

The low social image of the Greek accountant can be explained by the fact that until recently, until 1997, the AP was an “open profession” which did not require anyone to have professional qualification and certification to perform accounting duties. Many accountants lacked qualifications and especially university degrees. With the passing of an Act of the Greek Parliament in 1997, 2515/1997 “Practices of the profession of Accountant/Tax consultant, Functions of Audits and other provisions”, to qualify as professional accountant, an economics or business degree was required. Furthermore, in order to advance as professional accountant, it became a requirement to have experience of accounting work and to pass the professional accounting exams. The new regulations requiring qualifications to practice as an accountant, the introduction of the Greek Accounting Plan for all Greek companies and the introduction of International Accounting Standards for the big Greek companies have all affected the Greek AP and as a result its social image has evolved. Today, accounting degrees are among the best students’ favourite educational choices.

In conclusion, the negative intention group of students rejects the profession for the intrinsic nature of an accounting job, for its difficult working conditions (pressure and stress), and for its low social status in society. Students in the neutral group of intention have beliefs of the outcomes associated with the profession that are above the mid-point; however, as they believe that the accounting profession is stressful, time-consuming and has lower social status than doctors, lawyers and engineers. Students in the positive group of intention support the accounting career mainly for the intrinsic nature of the accounting job (Horowitz and Riley, 1990; Felton et al., 1994), its economic rewards (Gul et al., 1989; Felton et al., 1994), the chance to have their own accounting office one day and because they will meet and cooperate with a variety of people. However, they accept that the accounting profession has stressful working conditions and a high stress level, and that the profession does not have the same social status as doctors and lawyers, although it is well respected in Greek society and in the business world (Marcheggiani et al., 1999; Marriott and Marriott, 2003).

9.3.2.2 Differences in work values

The study also examined the work values or preferred job characteristics of management students, which are the other significant sub-construct for the calculation of their attitude towards pursuing an accounting career. The 13 individual work values extracted from the present sample data were job security, economic rewards, work conditions and autonomy (classified as extrinsic work values); interesting job, creativity, personal growth and using business skills (classified as intrinsic work values); advancement/promotion, decision making and social status (classified as prestige work values); and working with others and contribution to society (classified as social work values).

Greek management students in the entire sample have indicated that extrinsic work values were the most important for them, followed by intrinsic, prestige and social work values. There were only marginal differences in the mean scores for the extrinsic, intrinsic and prestige work value dimensions. Interestingly, the students indicated that the social work values and more specifically the contribution to society and working with others have the least importance for them. More detailed analysis of individual work values revealed that the entire sample had ranked the work value interesting job higher than all other individual work values, followed by advancement and promotion, and job security. Contribution to society, working with others and autonomy were scored lower by the students than all other work values.

The patterns of occupational values identified for Greek management students are in line with previous studies on the values of business students and employees (Carruthers, 1968; Shapira and Griffith, 1990; Ben-Shem and Avi-Ittzak, 1991) and consistent with the empirical literature on the general work value system among European students (Hofstede, 1984; Elizur et al., 1991; Lebo et al., 1995; Sverko, 1999).

In this research statistically significant differences were not identified in dimensions of work values between students in different groups of intention. Marginally significant differences have been identified between negative and positive groups of intention concerning the intrinsic dimension. However, despite reaching statistical significance, the actual difference in mean scores on intrinsic dimension between the groups was quite small ($\eta^2 = 0.28$). Interestingly, the positive intention group had a higher mean score on the intrinsic work values than the negative intention group. To validate this result further by examining the differences at the end of the first semester,

statistically significant differences were not identified between the groups. This result is in line with the findings by Baker (1976) and Giacomino and Akers (1998). These scholars have also not found statistically significant differences in work values, using the Rokeach values survey instrument, between accounting and non-accounting majors.

More detailed analysis to identify differences in mean scores of individual work values revealed that the rank order of these individual values was slightly different between groups of intention. Students' scores, in the negative group of intention, were higher in interesting job, advancement, job security and economic rewards. Social responsibility, work with others and creative job were ranked lower than all other work values. Undecided students indicated that the most important values for them were interesting job, job security and advancement and less important were social responsibility, working with others, autonomy and social status. Students in the positive group ranked higher interesting job, job relevant to my management studies and job security and lower social responsibility, autonomy and working with others.

Mixed results have been reported concerning the work values of accounting students and accountants (Ashworth, 1969; Peil, 1988; Inman, 1989). Horowitz and Riley (1990) and Felton et al. (1994) found that accounting students attach greater importance to intrinsic factors, although Paolillo and Estes (1982) and Gul et al. (1989) have supported the view that accounting students attach lower importance to the nature of their future job. The findings of the present study provide some support for the results presented in previous empirical studies that accounting and business students who are positive towards pursuing a career in the AP value intrinsic work values, longer term extrinsic work values over short-term and prestige work values in their ratings (Zikmund, 1977; Inman, 1989; Horowitz and Riley, 1990; Kamran et al., 1997; Hartwell et al., 2005). In contrast, they attach less importance to social work values and contribution to society as already identified in previous social accounting research (Gray et al., 1994; Humphrey et al., 1996).

Management students as a whole indicated interesting job and job security as the most important work values at the beginning of their management studies. However, research with business graduates has found that in the eventual selection of their initial job graduates want to satisfy their lower-order needs first and therefore extrinsic work values are the most important criteria when they select their first jobs (Lau and Pang, 1995; Moy and Lee, 2002). Regarding the importance of the job security work value, this is consistent with the existing accounting literature (Paolillo and Estes, 1982; Gul et al., 1989; Kamran et al., 1997) but is also related to the problem of unemployment of

qualified employees that characterizes the Greek economy (Gedeon and Psacharopoulos, 1982; Lianos et al., 2004).

The implications of the above results are that the work value systems of management students in all groups of intention are significantly related and that, for the most part, negative, neutral and positive intention students view the same values with corresponding degrees of importance. The statistically significant differences on the intrinsic dimension of attitude between students in the different intention groups has not been influenced by different intrinsic work values, but is due to the different beliefs about the nature of an accounting job. Therefore, the results reveal that in this educational research setting the work values are not an important predictor of attitude and intention to pursue a career in the AP (Maio and Olson, 1995).

9.3.3 Differences in perceived control

For the entire sample, scores on the perceived control construct were above the mid-point (on a 1-25-point scale) at the beginning of the first semester. Therefore, students overall believe that they have control and that there are no considerable difficulties in pursuing a career in the AP. This is in line with arguments in the literature (e.g., Stice and Swain, 1997) and findings reported by other researchers (Geiger and Ogilby, 2000).

Hypothesis 5 examined the existing differences concerning perceived control between students with negative, neutral and positive intention respectively. Regarding the differences between them in perceived control over pursuing a career in the AP, the results are in line with expectations and with past research (Cohen and Hanno, 1993; Allen, 2004). In particular, students in the negative intention group reported negative perceived control below the mid-point (mid-point 13). Students in neutral and positive intention groups on the other hand indicated positive perceived control above the mid-point.

Furthermore, statistically significant differences were identified concerning the dimensions of the perceived control construct – abilities and skills needed in accounting profession, relevant degrees and ability to pass professional exams – between groups of students. Negative and neutral intention students ranked successfully taking professionals' exams highest, followed by having a degree relevant to the AP and lowest having the abilities and skills to be accountants. The positive intention students ranked having a degree relevant to the accounting profession highest, followed by having the abilities and skills to be an accountant and successfully taking the accounting professionals' exams lowest. Adams et al. (1994) and Stice and Swain (1997) have

argued that course performance in accounting courses is not an important factor that affects students' decision to pursue a career in the AP. Adams et al. (1994) have supported the view that only "genuine interest in the field" as opposed to self-efficacy to become an accountant is the most significant factor in deciding to choose accounting as a major. The present research has shown empirically that perceived control over becoming an accountant is the most significant factor, together with a genuine interest in accounting, in management students' intention to pursue a career in the AP.

A more detailed analysis of the underlying sub-constructs – self-efficacy beliefs and importance of possessing relevant self-efficacies – resulted in significant differences in self-efficacy beliefs concerning being an accountant between the three intention groups of students. Positive and neutral intention groups of students ranked above the mid-point (mid-point 13) the self-efficacy beliefs that they have the skills and abilities, that they will have a degree relevant to the AP and that they will succeed in professional exams to qualify as accountants.

In contrast, the negative intention group ranked below the mid-point (mid-point 13) that they have the skills and abilities, that they will have a degree relevant to the AP and that they will succeed in professional exams qualifying them to follow a career in the AP. There may be two possible explanations for these students' (N=214) negative evaluation of their self-efficacies concerning the pursuit of a career in the AP. Firstly, some of these students may already have attended an accounting course in high school, and faced difficulties there. Some others may have taken a university level FAC, which they failed and had to repeat. Therefore, the students' initial exposure to a FAC has discouraged them, leading them to doubt their ability to become an accountant. Secondly, some of these students may have been misinformed by significant others, possibly friends and peers, about the difficulties of the FAC and of the AP. As a matter of fact, a very large percentage (50-70%) of business students in Greek universities fails to pass the final exam of the FAC.

It is important to note here that in Greece anybody can practise a business profession without having relevant degrees or exams to qualify as manager, consultant, financial analyst, information systems manager, etc. Management students can pursue any other business profession without the restriction of having relevant degrees or sat for professional exams. Moreover, in Greece students from non-business disciplines (such as lawyers, mathematicians and engineers) are not allowed to sit for professional accounting exams or become qualified as accountants. All these official restrictions and regulations concerning university degrees and accounting exams may discourage the

recruiting of students from other liberal arts departments into the AP, as accounting authors have proposed (Albrecht and Sack, 2000). However, without a replication of this study, it may be premature and inappropriate to generalize the current findings beyond this study.

Concerning the evaluation of possessing relevant vocational self-efficacies in order to pursue any profession, students in all groups of intention ranked highest that it is very important to have the skills and abilities needed by the profession, followed by having a relevant degree and the ability to pass in professional exams (Lent et al., 1994; Bandura et al., 2001). No statistically significant differences concerning the sub-construct importance of possessing relevant self-efficacies were identified between the intention groups of students.

To conclude, the statistically significant differences concerning the perceived control construct of an ACC between groups of intention can be attributed to differences in management students' self-efficacy beliefs concerning the pursuit of a career in the AP rather than to differences in their evaluation of possessing the relevant vocational self-efficacies in order to pursue any profession (Cohen and Hanno, 1993; Allen, 2004).

9.4 Investigating the effects of a FAC on constructs of an ACC model

The second aim of this thesis was to investigate the effect of a traditional and an innovative FAC respectively on the constructs of an ACC model. Many accounting researchers have stressed the role of AE on the recruitment process into the AP (Nelson, 1992; Albrecht and Sack, 2000; Marriott and Marriott, 2003), and specifically the importance of the FAC on an ACC (Baldwin and Ingram, 1991; Saudagaran, 1996; Mladenovic, 2000; Geiger and Ogilby, 2000). The findings of this study provide full support for the results concerning the importance of the FAC identified by previous empirical studies.

This study used the new integrated theoretical model of an ACC to examine the effect of the FAC on students' subjective norm, attitude, perceived control and intention to pursue an accounting career. Implicit in the theory of planned behaviour is the assumption that changes in subjective norm, attitude and perceived control will cause changes in intention to pursue a career in the AP. Specifically, the theory of planned behaviour holds that a person's intention to perform a specific behaviour may be modified by changing the cognitive beliefs (normative, behavioural and self-efficacy) that relate to the performance of the behaviour.

The next sections will examine the changes on the predictor variables after a traditional and an innovative FAC respectively to see if these changes have affected students' intentions to pursue a career in the AP.

9.4.1 Traditional FAC

Hypothesis 7 and its sub-hypotheses 7a, 7b, 7c and 7d examined the effect of a traditional FAC on students' intention, subjective norm, attitude and perceived control over becoming an accountant.

The results of the study do not support sub-hypothesis 7a that intention to pursue an accounting career would deteriorate between the beginning and the end of a traditional FAC. The mean score of intention dropped from 2.72 at the beginning of the semester to 2.63 at the end of the semester (on a 1-to-5-point scale). However, this difference was not statistically significant at the .001 level. There are no similar studies to report results concerning an aggregate measure of business students' intention after their exposure to a FAC. Fedoryshyn and Tyson (2003) have examined changes in an individual item, with a similar content with the intention "I would enjoy being an accountant" in a study of business students with an undeclared major, and they reported negative but not statistically significant changes in the specific intention item after a traditional FAC.

In the present research, management students indicated negative intention, below the mid-point (mid-point 3), at the start of the first academic semester and their intention had deteriorated at the end of the first academic semester. The drop in intention was not statistically significant; however, several other issues are important and worth considering in this regard. The limited decline in students' scores of intention to pursue an accounting career may be misleading due to the fact that students who dropped the FAC were disproportionately disaffected by it compared to those who stayed in the course. As a result, the students who dropped the course did not fill the second instrument, i.e., no end scores were computed for the constructs of an ACC and consequently the change in their intention was not incorporated in the statistical analysis of the present study. This trend of an increasing students' negative intention to pursue an accounting career during their FAC is very worrisome for the future recruitment of qualified accounting professionals (Nelson, 1992; Albrecht and Sack, 2000).

As a non-statistically significant but adverse change in the direction of intention has been found after the traditional FAC, the behavioural constructs – subjective norm, attitude and perceived control – that affect intention to pursue a career in the AP (Ajzen,

1991) have been further examined to see if and how they have changed and whether they have influenced students' intention.

The results of the study do not support sub-hypothesis 7b that subjective norm concerning the pursuit of a career in the AP would deteriorate between the beginning and the end of a traditional FAC. The mean score of subjective norm improved from 9.67 at the beginning of the semester to 10.74 at the end of the semester (on a 1-to-25-point scale). This difference was statistically significant at the .001 level. This is contrary to expectations but in line with findings reported by other researchers (Fedoryshyn and Tyson, 2003; Marriott and Marriott, 2003). Both studies reported a positive change in students' scores of significant others' (family and friends/peers) beliefs concerning the pursuit of a career in the AP, but it was not statistically significant.

A more detailed analysis of the sub-constructs of subjective norm in the present sample revealed that the differences in the subjective norm construct are due to the improvement of normative beliefs of family and society concerning the pursuit of a career in the AP. This improvement is possibly explained by the fact that some of the management students at the start of the semester may have been oriented towards pursuing disciplines other than business. Students and their families may have not been aware of the different career opportunities that a management degree offers. After the distribution of the first questionnaire at the beginning of the semester, management students presumably gathered more information from their significant referents regarding the accounting profession (history effect; Cook and Campbell, 1979). Family and society may have supported an accounting career as it offers many different employment opportunities and a secure and stable future.

The results of the study do not support sub-hypothesis 7c. The mean score of attitude dropped from 14.22 at the beginning of the semester to 14.06 at the end of the semester (on a 1-to-25-point scale). However, this difference was not statistically significant at the .001 level. Detailed analysis of dimensions of attitude in the group taking the traditional FAC resulted in the three dimensions – extrinsic, intrinsic and prestige – deteriorating and the social dimensions improving, although none of these differences were statistically significant. The biggest negative change was in intrinsic dimension, which was close to statistically significant ($p=.055$). The traditional FAC has been identified to cause deterioration on students' attitude towards accountants and accounting as a career (Nelson, 1992; Fedoryshyn and Tyson, 2003). However, previous studies have conceptualized and operationalized attitude towards pursuing a career in

the AP using different theoretical approaches than the one proposed by the expectancy value model (Fishbein, 1963; Fishbein and Middlestadt, 1995) and the theory of planned behaviour (Fishbein and Ajzen, 1975; Ajzen, 1991).

In the present research, more detailed inspection, between the beginning and the end of the first academic semester, of students' beliefs concerning the attributes and outcomes associated with the AP, found statistically significant negative changes on beliefs concerning the attributes and outcomes associated with the AP. Specifically, the FAC negatively affected students' beliefs concerning the intrinsic attributes and outcomes associated with the AP. Students in the traditional FAC ranked the items that they liked the nature of an accounting job, that an accounting job requires diverse business knowledge and skills, and demands creativity and new ideas lower at the end than at the beginning of the first academic semester. All the differences on the above items are statistically significant. However, no statistically significant differences on scores of beliefs concerning the extrinsic, prestige and social attributes and outcomes associated with the AP were identified between the beginning and the end of the FAC.

Therefore, the findings that Greek management students, after taking the traditional FAC, are adversely affected concerning the nature of the accounting job are in line with the findings reported by Caldwell et al. (1996), Marcheggiani et al. (1999) and Mladenovic (2000). The statistically significant adverse differences on students' scores of belief-items concerning the skills and abilities needed in order to pursue a career in the AP are consistent with the results reported by Friedlan (1995) and Saeman and Crooker (1999). These results suggest that the traditional FAC provides misinformation about the nature of the work that accountants do. Students are becoming turned off early (Marriott and Marriott, 2003). Accounting educators using the traditional approach (teaching method, content, exercise, assessment) are not able to convince students that an accounting career is in fact the creative, rewarding, interesting career that many students envisage for themselves (see Albrecht and Sack, 2000). Furthermore, as students do not receive information through their FAC of the other attributes and outcomes associated with the AP, their beliefs regarding the extrinsic, prestige and social outcomes remain the same.

There were no statistically significant changes in work values of management students between the beginning and the end of the first academic semester. These results are not consistent with research by Kirkpatrick Johnson (2001a) and Kirkpatrick Johnson and Elder (2002), who have argued that work values change as individuals become older.

Previous accounting research has examined only how the FAC affects perceptions associated with intrinsic characteristics of an accounting job, such as the nature of an accounting job (Caldwell et al., 1996; Saudagaran, 1996; Saeman and Crooker, 1999; Mladenovic, 2000), the skills and abilities needed for success by accounting students and accountants (Friedlan, 1995) and overall beliefs concerning the attributes and outcomes associated with the AP (Fedoryshyn and Tyson, 2003). This study has extended prior research by examining how the traditional FAC affects the attitude towards pursuing a career in the AP, the dimensions of attitude and students' accounting beliefs and work values. The above results can be generalized at least with respect to the adverse effect of the traditional FAC on Greek management students' beliefs about the nature of an accounting job and the skills and abilities needed by accountants.

In vocational research, both interests and self-efficacy were found to mutually influence each other and to correspond with occupational choice (Tracey, 2002); in addition, they have been central constructs in the study of vocational choice and job satisfaction (Savickas, 1999a; Tracey, 2002). A significant amount of accounting research has attempted to identify and analyse some of the factors which may explain differences in performance in the FACs at university (Naser and Peel, 1998; Booth et al., 1999) and how performance may affect the choice of major (Cohen and Hanno, 1993; Stice et al., 1997; Tan and Laswad, 2006). However, to date, no research has examined the relationship between students' accounting career decision making and students' self-efficacy beliefs concerning the pursuit of a career in the AP. Specifically, no research has examined how the FAC affects students' perceived control concerning the pursuit of a career in the AP. Considering how important are the specific self-efficacy beliefs in order for individuals to decide to pursue a given career (Bandura, 1993; Pazares, 1997b), the present study contributes to this area of accounting educational research.

The results of the study fully support sub-hypothesis 7d that perceived control over pursuing a career in the AP would deteriorate between the beginning and the end of a traditional FAC. The mean score of perceived control dropped from 14.43 at the beginning of the semester to 12.46 at the end of the semester (on a 1-to-25-point scale). This difference was statistically significant at the .001 level. The traditional FAC led to a dramatic deterioration of the perceived control construct of an ACC. Furthermore, the traditional FAC have affected all the dimensions of perceived control. The dimensions of perceived control regarding abilities and skills, degrees and likely success in professional accounting exams have all been negatively affected. Statistical analysis

revealed that this adverse effect is due to changes in self-efficacy beliefs concerning the pursuit of a career in the AP and not to changes in their evaluation of the importance of possessing relevant vocational self-efficacies. Management students at the end of a traditional FAC have indicated that they do not have the specific skills and abilities needed by the AP; they will not be able to succeed in professional exams that are necessary to qualify as accountant; and finally that their management degree is not directly relevant to the AP. This result has important implications for the profession as it trying to recruit students with broad general and business background (Albrecht and Sack, 2000). The traditional FAC does not affect only the beliefs concerning the nature of an accounting job and the skills needed in the accounting profession, but also strongly negatively affects students' self-efficacy beliefs concerning the pursuit of a career in the AP.

From the above presented results it can be concluded that, after taking the traditional FAC, the constructs of ACC model, subjective norm has significantly improved (although still below the mid-point); attitude has remained unchanged (although the intrinsic dimension of attitude has deteriorated); and perceived control has significantly deteriorated. All these changes have balanced each other out and a negative change in intention to pursue a career in the AP is evident, although this change was not statistically significant. The theory of planned behaviour and the new model of an ACC have been validated by the above results. Changes in predictor variables bring equal changes in criterion variable (Handerman et al., 2002).

Therefore, the traditional FAC led to students reaching their first perceptions of the nature of an accounting job and the skills and abilities needed by the AP. Furthermore, they will have gained the impression that the skills and abilities needed are different from their own skills and abilities; that their management degree is not directly relevant to the AP; and that it will be very difficult for them to pass the professional accounting exams. However, the present sample has not radically changed their intention to pursue an accounting career. The next accounting courses and other educational and professional experiences will influence their final decision (Danziger and Eden, 2006).

9.4.2 Innovative FAC

Hypothesis 8 and its sub-hypotheses 8a, 8b, 8c and 8d examined the effect of an innovative FAC on students' intention, subjective norm, attitude and perceived control.

The results of the study fully support sub-hypothesis 8a that students' intention to pursue an accounting career would improve between the beginning and the end of an innovative FAC. The mean score of intention improved from 2.89 at the beginning of the semester to 3.14 at the end of the semester (on a 1-to-5-point scale). This difference was statistically significant at the .02 level. There are no similar studies reporting results concerning the intention of management students to pursue an accounting career after their exposure to an innovative FAC. Fedoryshyn and Tyson (2003) examined differences only on one item relevant to the intention to pursue a career in the AP "I would enjoy being an accountant" before and after a similar intervention, and reported negative (the mean fell from 3.22 to 3.21) but not significant change after an innovative FAC. However, their sample at the beginning of the semester indicated positive intention scores to pursue a career in the AP. In the present research, business students with a management major indicated negative intention scores below the mid-point of (3) at the start of the first academic semester. Interestingly, this intention improved above the mid-point at the end of the first academic semester and after they had attended an innovative FAC.

As a statistically significant positive change in direction of intention was found after the innovative FAC, the constructs of an ACC – subjective norm, attitude and perceived control – that affect intention were examined further to see if and how they might have changed after the innovative FAC and whether they have influenced students' intention.

The results of the study do support sub-hypothesis 7b that the subjective norm concerning the pursuit of a career in the AP would improve between the beginning and the end of an innovative FAC. The mean score of subjective norm improved from 10.89 at the beginning of the semester to 12.17 at the end of the semester (on a 1-to-25-point scale). This difference was statistically significant at the .02 level. This result is according to expectations and in line with findings reported by other researchers (Fedoryshyn and Tyson, 2003).

Interestingly, the detailed analysis of the sub-dimensions of subjective norm in the present sample revealed that the differences in subjective norm are due to the statistically significant improvement of the dimension of SN teachers. In the innovative FAC, students' scores on SN teachers show a significant positive change from 10.23 at the beginning of the semester to 12.44 at the end of the semester. Fedoryshyn and Tyson (2003) reported only a positive but not statistically significant change in families' normative beliefs concerning the pursuit of a career in the AP after an innovative FAC.

In the present study, management students at the end of an innovative FAC indicated positive normative beliefs of accounting educators concerning their intention to follow an accounting career after graduation. Possibly, after the presentation, students asked their accounting educators about their beliefs and for advice in order to pursue a career in the AP and their educators supported careers in the AP. It is worth noting that the accounting educators in the innovative FAC were present during the event.

The results of the study do support sub-hypothesis 7b. The mean score of attitude improved from 14.60 at the beginning of the semester to 15.26 at the end of the semester (on a 1-to-25-point scale). This difference was statistically significant at the .02 level. Detailed analysis of dimensions of attitude in the innovative FAC group resulted in an improvement of all dimensions, although only the difference on prestige dimension from 14.34 to 15.25 was statistically significant at the .02 level.

More detailed inspection, of individual beliefs concerning the attributes and outcomes associated with a career in the AP and work values related to the prestige dimension, reveals that there were statistically significant positive changes only on beliefs concerning the prestige attributes and outcomes associated with a career in the AP. This result is similar to Fedoryshyn and Tyson's (2003) as they have reported a statistically significant improvement on two items that measure beliefs concerning prestige characteristics of the AP after practitioners' presentations.

In addition, the accountants' presentation for the AP influenced and improved some of the beliefs concerning the extrinsic and intrinsic attributes and outcomes associated with the AP, although the change was not a statistically significant one. Regarding the beliefs concerning intrinsic attributes and outcomes associated with the AP, previous accounting research (Friedlan, 1995; Caldwell et al., 1996; Mladenovic, 2000) has used different innovative teaching methods for the FAC in order to investigate their influence on students' perceptions concerning the nature of the accounting job and the skills and abilities needed by the profession. The results have been mixed, the researchers reporting that only some aspects of perception had improved while others had deteriorated. Mladenovic (2000) used an aligned teaching environment and reported that students had more realistic perceptions of accounting after the first course. Fedoryshyn and Tyson (2003) investigated the effect of practitioners' presentations on beliefs concerning the nature of accounting job, reporting mixed results for different intrinsic attributes and outcomes associated with the AP. All previous researchers have stressed that the accounting courses, both traditional and innovative ones, tended to reinforce students' perceptions of the technical, mathematical and numerical nature of

the AP. At the end of their FAC, business students indicated that accountants must be good in maths, i.e., they needed to remember numbers, principles and rules to do their job. Students were of the view that accountants' work is mostly related to bookkeeping and preparing information for business decision makers.

It is worth noting that in this study the beliefs concerning the intrinsic outcomes associated with the AP did not deteriorate after the innovative FAC to a statistically significant degree. After completing the innovative FAC management students ranked only three out of eight beliefs concerning intrinsic attributes and outcomes slightly lower than at the beginning of the semester. At the end of the semester students believed less that they liked an accounting job, that an accounting job requires diverse business knowledge and that it demanded creativity and new ideas. It is possible that accounting practitioners through their presentations of their daily accounting practice and the skills and abilities needed by the profession managed to mitigate partly the negative effects of the FAC on students' beliefs concerning the nature and the skills and abilities needed by the AP. Albrecht and Sack (2000) have supported the view that the FAC is perceived as both demanding and mechanical, and turns off prospective accountants, and therefore even a small improvement is a good sign regarding the structure of the FAC. A major implication of this research, well known from past accounting research, is that both the traditional and the innovative FAC maintain and possibly enhance misperceptions about the nature of an accounting job and the abilities and skills needed by the AP. As Albrecht and Sack (2001, p.42) argued, "we have problems with the image and value-added nature of accounting education and we must address these problems ourselves".

Interestingly the beliefs concerning the social attributes associated with the AP deteriorated although not at a statistically significant level. This can be attributed to the fact that accounting practitioners did not address the issue of the profession's social responsibilities. Instead, they discussed the responsibility and obligation of accountants to business decision makers (business owners) regarding assistance with reducing their tax burden and making the right business decisions. This was done as the researcher did not ask them to address the issue of accountants' social responsibility and related issues. Unfortunately, the presenters were not adequately prepared to address the issue of social responsibility and the contributions accounting professionals made in this area. Finally, all the dimensions of work values of students taking the innovative FAC, similar to those taking the traditional FAC, did not experience any statistically significant change between the beginning and the end of the first academic semester.

The results of the study do not support sub-hypothesis 8d that perceived control over becoming accountant would improve between the beginning and the end of an innovative FAC. The mean score of perceived control improved from 14.28 at the beginning of the semester to 14.79 at the end of the semester (on a 1-to-25-point scale); however, this difference was not statistically significant at the .001 level. The construct perceived control over pursuing an accounting career stayed constant at the end of the innovative FAC. It is important that perceived control kept stable, as at the beginning of the semester it was already above the mid-point. This is probably due to the fact that one of the presenters at both ATEIs emphasized how he had failed the first accounting exam four times, yet is now a very successful accounting professional. Further, he supported the view that the difficult and technical nature of a FAC does not correspond to his professional experience as most tasks are performed today by computers and data entry is assigned to low level accounting employees and graduates of technical colleges. Furthermore, the practitioners stressed that although there are legislative requirements setting out the qualifications an accountant must have to become a category A accountant, graduates with a management degree can serve as category C and B accountants, which serve 95% of all Greek enterprises. Furthermore, they advised the students that they can qualify as international management accountants by taking the international CIMA (Certified Institute of Management Accountants) exam.

It can be concluded that after the innovative FAC, the constructs subjective norm and attitude have improved to a statistically significant level, whereas the construct perceived control has remained unchanged. All these positive changes positively influenced students' intention to pursue a career in the AP. The theory of planned behaviour and the model of an ACC have been validated by the above results. Changes in predictor variables bring equal changes in criterion variable (Handerman et al., 2002).

The implication is that the present results can be generalized beyond the current sample, at least with respect to the positive effect of an innovative FAC on management students' intentions and on other related vocational constructs, i.e., subjective norm and attitude. The findings suggest that events at which practitioners present information about the contemporary AP can be used broadly by accounting educators in designing accounting courses since guest speakers are likely to promote realistic beliefs concerning the attributes and outcomes associated with the AP and the specific self-efficacies needed in order to qualify as accountant (Metrejean and Zarzeski, 2001).

9.4.3 Differences between traditional and innovative FACs

At the beginning of the first academic semester, the initial equivalence concerning intention, subjective norm, attitude and perceived control, between the two groups of students taking a traditional and innovative FAC, was tested. No statistically significant differences were identified between the two groups. Furthermore, the results of the paired T-test concerning scores in intention, subjective norm, attitude and perceived control of the control group, at the beginning and the end of the first academic semester, confirmed that observed differences between the traditional and innovative FACs were caused by the type of course and not by maturation effects. The above statistical results enhanced the internal validity (see Marriott, 1998) of the following conclusions regarding the different effects of traditional and innovative FACs on the constructs of an ACC.

Hypothesis 9 examined the differences between the groups of students concerning their intention after attending a traditional and an innovative FAC respectively, at the end of the first academic semester. Regarding the differences on the scores of intention to pursue an accounting career between students taking different FACs, the patterns of results, are in line with expectations. The mean scores of intention in the groups taking the traditional and the innovative FAC were 2.63 and 3.14 respectively at the end of the first semester (on a 1-to-5-point scale). This difference was significant at the .001 level.

Descriptive statistics present very interesting results concerning the changes in students' intentions in traditional and innovative FACs. At the beginning of the academic semester in the traditional FAC, 49 students (32.9%) declared a negative intention, 79 students (53%) declared themselves undecided regarding their future vocational choice and 21 students (14.1%) declared a positive intention to pursue a career in the AP. At the end of the semester, fewer students in the traditional FAC declared a positive intention to pursue a career in the AP, more specifically, 56 students (37.6%) declared a negative intention, 75 students (50.3%) declared themselves undecided regarding their future vocational choice and 18 students (12.1%) declared a positive intention to pursue a career in the AP. In contrast, the students taking the innovative FAC exhibited a significant increase on their intention score to pursue a career in the AP. In particular, at the beginning of the academic semester 18 students (27.3%) declared a negative intention, 35 students (53%) declared themselves undecided regarding their future vocational choice and 13 students (19.7%) declared a positive intention to pursue a career in the AP. At the end of the semester, 12 students

(18.2%) declared a negative intention, 34 students (51.5%) declared themselves undecided regarding their future vocational choice and 20 students (30.3%) declared a positive intention. Using mixed between-within subject analysis of variance, the main effect for the time in intention score, between all subjects, was not statistically significant, but the main effect for the type of FAC (traditional vs. innovative) in intention score was statistically significant. Furthermore, the interaction effect in the factorial ANOVA was statistically significant, indicating that the change in intention scores over time (between the beginning and the end of the first semester) is different for the students in traditional and innovative FACs. The above results confirm the suggestions by Metrejean and Zarzeski (2001) and Fedoryshyn and Tyson (2003) that practitioners' presentations have a favourable impact on students' intention to pursue a career in the AP.

Hypothesis 10 examined differences between management students in traditional and innovative FACs concerning their scores on subjective norm, attitude and perceived control at the end of the first semester. Furthermore, hypothesis 11 examined if students in the innovative FAC will have more favourable scores on subjective norm, attitude and perceived control than students in the traditional FAC, measured at two points in time, at the beginning and at the end of the first academic semester.

Regarding differences between students in traditional and innovative FACs, on the scores of subjective norm concerning the pursuit of an accounting career, the patterns of results are in line with expectations and previous research (Fedoryshyn and Tyson, 2003). Statistically significant differences were identified between students in traditional vs. innovative FACs concerning their subjective norm at the end of the FAC. The mean scores of subjective norm in the groups taking the traditional and innovative FAC were 10.74 and 12.17 respectively (on a 1-to-25-point scale). This difference was statistically significant at the .02 level. Using mixed between-within subjects analysis of variance to investigate further what had caused the differences, both the main effects for time and type of accounting course (traditional and innovative FAC) on subjective norm were statistically significant. Management students, in both experimental groups, indicated an increase in subjective norm scores at the end of the first academic semester. However, it is worth noting that students in the innovative FAC indicated having more positive subjective norm concerning the pursuit of an accounting career than their counterparts in the traditional FAC at the end of the first academic semester. Interestingly, the significant difference in subjective norm score between students in traditional vs. innovative FACs stemmed from significant differences in normative

beliefs coming from their teachers, i.e., accounting educators. Students in the innovative FACs indicated that their accounting educators had encouraged them to follow a career in the AP. Inspiring accounting educators have been identified by previous research as an important influence on an ACC (Geiger and Ogilby, 2000; Albrecht and Sack, 2001). An important consequence of the accounting professionals' presentations is possibly that not only students become aware of the advantages of pursuing an accounting career, but that the accounting educators are also impressed. Those educators may now become more effective advocates of pursuing an accounting career and may create a lasting positive impression of the AP on their students.

Regarding differences between students in traditional vs. innovative FACs on the measure of attitude towards pursuing a career in the AP, the patterns of results are in line with expectations. Significant differences were identified between students in the traditional and innovative FACs concerning their attitude. The mean score of attitude in the groups taking the traditional vs. the innovative FAC were 14.06 and 15.25 respectively at the end of the first semester (on a 1-to-25-point scale). This difference was significant at the .003 level. Investigating the differences between traditional and innovative groups concerning the dimensions of attitude, the results revealed statistically significant differences only in intrinsic and prestige dimension of attitude.

The mean scores for intrinsic dimension in the groups taking the traditional vs. the innovative FACs were 15.26 and 17.31 respectively at the end of the first semester (on a 1-to-25-point scale). This difference was statistically significant at the .002 level. Using mixed between-within subject analysis of variance of intrinsic dimension, the results showed that the main effect for time on intrinsic dimension, between all subjects, was not statistically significant, but the main effect for the type of accounting course (traditional vs. innovative FAC) on intrinsic dimension was statistically significant. Furthermore, the interaction effect in the factorial ANOVA was statistically significant, which indicates that the change in intrinsic dimension scores over time (between the beginning and the end of the first semester) is different for the students in traditional vs. innovative FACs. Therefore, the statistically significant differences on scores of intrinsic dimension between students can be attributed to the type of accounting course. While accounting educators in traditional courses may not be able to bring out the difference between accounting and bookkeeping, and to change students' impressions that accountants are detail-oriented people who like to work with numbers, maths, accounting books and taxes, the professional accountants' presentations in the innovative FAC did make a difference and affect students' beliefs concerning the nature

of an accounting job, and the skills and abilities needed by the AP (Metrejean and Zarzeski, 2001).

The mean scores of the prestige dimension in the groups taking the traditional vs. the innovative FACs were 13.77 and 15.25 respectively at the end of the first semester (on a 1-to-25-point scale). This difference was significant at the .01 level. Using mixed between-within subject analysis of variance of prestige dimension, the results showed that the main effects for time and type of accounting course on the prestige dimension were not statistically significant. However, the interaction effect in the factorial ANOVA was statistically significant and indicated that the change in the score of the prestige dimension over time (between the beginning and the end of the first semester) is different for the students in traditional vs. innovative FACs. Thus, the magnitude and direction of change in the prestige dimension during the semester was influenced by the type of FAC. Combining information about the AP with a traditional FAC is more effective in improving students' scores concerning their beliefs of the AP's prestige attributes and outcomes (Fedoryshyn and Tyson, 2003).

The above results confirm findings from previous research that after traditional and innovative FACs, only students in the innovative FAC improve their beliefs overall concerning the intrinsic and prestige outcomes associated with the AP (Friedlan, 1995; Caldwell et al., 1996; Mladenovic, 2000; Fedoryshyn and Tyson, 2003).

Regarding differences on the measure of perceived control over becoming accountants between students in traditional vs. innovative FACs, the patterns of results are in line with expectations. Significant differences were identified between students in traditional vs. innovative FACs concerning their perceived control. The mean scores of perceived control for the two groups were 12.46 and 14.81 respectively at the end of the first semester (on a 1-to-25-point scale). This difference was statistically significant at the .003 level.

Using mixed between-within subject analysis of variance of perceived control to investigate the source of the identified differences, the main effects for time and type of course on perceived control were not statistically significant. However, the interaction effect in the factorial ANOVA was statistically significant and indicated that the change in perceived control scores over time (between the beginning and the end of the first semester) is different for students in traditional vs. innovative FACs. Students' perceived control in the traditional FAC deteriorated, while students' perceived control in the innovative FAC did not change from the beginning to the end of the semester.

Accounting educators need to take into consideration the construct of perceived control and specifically the self-efficacy beliefs of students moving towards becoming an accountant. In this study, students in the innovative FAC did not suffer deterioration in their perceived control to be an accountant, in contrast with students in the traditional FAC. This may be attributed to presenters, as already indicated, especially with regard to the presenter who discussed his personal perceptions of the difficulty of choosing a career in the AP.

From above discussion can be concluded that the type of FAC and specifically the information on the AP presented by accounting practitioners account for the differences between students concerning the constructs of an ACC. Students exposed to information concerning the AP display more positive behavioural changes on subjective norm, attitude and perceived control concerning the pursuit of an accounting career than do students not exposed to this information, during the first academic semester.

The results of additional statistical tests concerning students' perceptions of their FAC and impressions of their accounting educator further clarified and enhanced the above conclusions. First, students in innovative groups perceived the course more positively than did students in traditional FAC. The ANOVA test indicated statistically significant differences in the ranking of the FAC between students in traditional and innovative courses at the end of the semester. This result is consistent with the arguments put forward by Metrejean et al. (2002) and Fedoryshyn and Tyson (2003). In contrast, Geiger and Ogilby (2000) reported a statistically not significant relationship between students' perception of a FAC and their choice of accounting as major.

Further, the study examined the differences concerning students' evaluation of seven accounting educators who taught the traditional and innovative FACs. Students in the ATEI of Athens ranked their educator higher than the students in all other ATEIs, while students in the ATEIs of Chalkida and ATEIs of Seres ranked their educators lower than students in all other ATEIs.

A one-way ANOVA revealed statistically significant differences in the scores of impression of accounting educator between different ATEIs. Detailed analysis via a Hukey test indicated that there were only differences between the accounting educators in the ATEI of Athens (teaching an innovative FAC) and those in the ATEI of Chalkida (teaching a traditional FAC). The influence of instructors on an ACC has not been under full control in the present study. It was difficult to isolate any impact caused by individual faculty members on the constructs of an ACC as the seven accounting educators taught only either traditional or innovative FAC classes. Due to the study's

design, it is difficult to isolate the individual effects of “inspiring accounting educators” (Albrecht and Sack, 2001) on students’ constructs of an ACC versus the potentially better scores of students’ intention due to them being directly influenced by innovative course presentations.

However, the only statistically significant difference between the accounting educators of the ATEIs of Athens and Chalkida that could be identified provides confidence that the different results between traditional and innovative FACs are due to additional information about the AP (provided in innovative FAC), which positively influenced students and *not* from the in-class performance of their accounting educators.

9.5 Summary

The purpose of this chapter was to discuss and link the main results to previous behavioural, vocational and accounting research concerning the ACC and the effects of FACs on an ACC.

This thesis has developed and empirically tested a new theoretical model of an ACC. Through several statistical analyses, the study has identified the dominant constructs that affect an ACC. Moreover, this study also highlighted empirical evidence of the impact of two types of FAC on the constructs of an ACC. Based on previous discussion, the research findings have confirmed the findings of existing accounting and vocational behavioural literature. However, the research findings concerning a number of issues do not agree with the findings from other studies.

Furthermore, the predictive ability of the theory of planned behaviour has been tested and changes in normative, behavioural and self-efficacy beliefs have led to intention changes (Fishbein and Ajzen, 1975; Ajzen, 1991).

In the next chapter, a summary of the research approach, the main research findings, the main limitations of the research, its contribution to knowledge and directions for future research will be discussed.

Chapter 10. CONCLUSION

10.1 Introduction

This thesis contributes to the accounting career choice (ACC) and to the accounting education (AE) literature by investigating the effects of a traditional vs. an innovative first accounting course (FAC) on management students' ACC. Its motivation is to contribute to our understanding of how ACC are made by students studying in Business Administration departments and to how best to recruit them into the AP. This chapter outlines the conclusions and recommendations reached in this study. It consists of seven sections including the introduction. The following Section 10.2 presents a brief summary of the study. Section 10.3 gives an overview of the main findings of the study by highlighting the important constructs of an ACC and the effects of a traditional and an innovative FAC respectively on them. Section 10.4 discusses the contribution of the study to existing knowledge. Section 10.5 identifies the limitations of the study. Section 10.6 presents the practical implications of the study, and the last Section 10.7 makes some recommendations for future research.

10.2 Summary of study

No single study can adequately address the question of which factors affect an ACC and the role of AE in this process. Despite recent rigorous research efforts, the issue remains complex and, in some respect, contradictory and ambiguous. This thesis attempts to advance the enquiry by addressing important conceptual and methodological issues in students' ACC.

The study employs a new framework and multi-stage research approach to investigate the important constructs that can predict and explain the ACC of management students attending ATEIs in Greece. Furthermore, the influence of traditional and innovative FAC respectively on the constructs of an ACC has been examined and differences between them identified. The theories of planned behaviour and work values and previous research on ACC have been used to develop the integrated theoretical framework of the study. The theoretical design of the study provides justification for the differences between the results of this study and previous

accounting research. Unlike other empirical studies, which have in the main addressed only some parts of an ACC, this study extends the testable implications of existing explanations of an ACC by using a combination of behavioural and vocational variables of an ACC in the framework of the model developed for this research to explain the effect of a FAC on an ACC.

The descriptive, causal and explanatory nature of the study provided support for the decision to conduct it from a quantitative research perspective (Creswell, 1994; Bryman and Bell, 2003). The research methodology and the specific research approaches used in this thesis have enabled the researcher to provide an explanation of the constitutive parts of the overall phenomenon and of the differences between the results obtained by previous empirical accounting studies. Among the different approaches being used to perform quantitative research, this study adopted a longitudinal study to empirically test the new proposed integrated framework of an ACC and a quasi-experimental research design to investigate the effect of a traditional and an innovative FAC respectively on ACC constructs.

A large number of usable questionnaires were collected from management students, 1071 in all, with 586 questionnaires at the beginning and 485 at the end of the FAC, which were used to empirically test the newly proposed integrated framework of the study to predict the ACC. Subjective norm concerning the pursuit of a career in the AP, attitude towards pursuing the AP and perceived control over pursuing a career in the AP all contributed significantly to the prediction of students' intention to pursue an accounting career. Furthermore, 250 matched usable questionnaires from management (215) and engineering students (35) were used to investigate the effect of two types of FAC on the constructs of an ACC. The initial equivalence between management students in traditional and innovative experimental groups respectively and the use of a control group greatly enhanced the internal validity of the study. Traditional and innovative FACs have been shown to affect the constructs of an ACC and thus ultimately influenced students' intention to pursue a career in the profession. The quasi-experimental research design made it possible to prove the effectiveness of having professional accountants present information about the AP as a recruiting tool. The study results imply that changes in AE need not be extensive or expensive to help increase the recruitment of students from other business departments into the profession. Presentations by professional accountants, talking about the AP, are a very effective strategy of integrating information about the AP into classroom teaching and influencing students' intentions to pursue an accounting career. The findings of the

present research confirm the assumptions of the adopted behavioural and vocational theories and clarify results from previous accounting studies concerning the process of an ACC and the effect of AE on this process.

10.3 Overview of main findings

This thesis attempted to investigate the constructs of an ACC by management students in ATEIs in Greece and the effects of two types of FAC on these constructs.

This section outlines the main results of the present research in terms of the constructs of an ACC and the effects of the two types of FAC.

10.3.1 Accounting career choice

The main findings of testing the hypotheses proposed in this thesis indicate that:

- Management students' intention to pursue an accounting career were very well predicted by their subjective norm concerning the pursuit of a career in the AP (perceived social pressure), by personal attitude towards pursuing an accounting career and by perceived control over being accountant.
- Only the intrinsic dimension of attitude was found to have a significant association with intention to pursue an accounting career at the beginning and at the end of the first semester. The extrinsic, prestige and social dimensions of students' attitude do not contribute to the prediction of intention.
- A mediating effect has been found between intrinsic dimension and perception of the FAC. The perception of the FAC partially mediated the relationship between the intrinsic dimension and intention to pursue an accounting career. This suggests that both the perception of a FAC and the intrinsic dimension contribute to the prediction of students' intention in a complementary manner.
- There are statistically significant differences on scores of the subjective norm between students who intend and those who do not intend or are as yet undecided to pursue an accounting career.
- There are statistically significant differences on scores of attitude towards pursuing an accounting career between students who intend and those who do not intend or are as yet undecided to pursue an accounting career.
- There are statistically significant differences on scores of the intrinsic dimension of attitudes between students who intend and those who do not intend or are as yet undecided to pursue an accounting career.

- There are statistically significant differences on scores of extrinsic, prestige and social dimension of attitude between students who intent and those who do not intent or are as yet undecided to pursue an accounting career, however the actual difference in mean scores was quite small.
- There are statistically significant differences on scores of perceived control between students who intend and those who do not intend or are as yet undecided to pursue an accounting career.

10.3.2 Effect of FACs on ACC

Traditional first accounting course (FAC)

- Students' intention deteriorated but not significantly between the beginning and the end of a traditional FAC.
- Students' subjective norm improved significantly between the beginning and the end of a traditional FAC.
- Students' attitude deteriorated but not significantly between the beginning and the end of a traditional FAC.
- Students' perceived control deteriorated significantly between the beginning and the end of a traditional FAC.

Innovative first accounting course (FAC)

- Students' intention improved significantly between the beginning and the end of an innovative FAC.
- Students' subjective norm improved significantly between the beginning and the end of an innovative FAC.
- Students' attitude improved significantly between the beginning and the end of an innovative FAC.
- Students' perceived control improved but not significantly between the beginning and the end of an innovative FAC.

Differences between traditional and innovative first accounting courses (FAC)

- A statistically significant difference concerning their intention was found between groups of students taking the traditional and the innovative FAC respectively at the end of the first academic semester.

- At the end of a traditional and an innovative FAC respectively management students differed significantly in terms of their subjective norm, intrinsic and prestige dimension of attitude and perceived control.
- Management students in the innovative FAC group had more favourable intention, subjective norm, intrinsic and prestige dimension of attitude and perceived control than students in the traditional FAC group as measured between the beginning and the end of the first academic semester.

10.4 Contributions

In recent years there have been significant research efforts made aimed to explain an ACC. In addition, many researchers have examined different strategies in order to recruit students into the AP. This study has contributed to our understanding of behavioural and vocational constructs involved in an ACC, and how traditional and innovative FACs respectively affect the identified constructs of an ACC. This thesis makes several contributions to the scientific literature in this regard.

First, this thesis presents a new theoretical model for understanding the constructs and sub-constructs of an ACC. Based on well-established theories of planned behaviour, work values and previous accounting research, the study has developed a new integrated theoretical framework for the investigation of a specific career choice. Work values have been used to operationalize vocational attitude towards pursuing a specific profession for the first time. The integrated model has been tested empirically in the investigation of an ACC. The new model of an ACC, which includes subjective norm, attitude and perceived control variables, explained 47.8% and 57.7% respectively of the variance of students' intention to pursue an accounting career at the beginning and the end of their first academic semester respectively. This is quite a respectable result when compared with the results reported by previous accounting research on an ACC.

Second, new scales for the constructs of the model were developed to measure intention, subjective norm, beliefs concerning attributes and outcomes associated with the AP (perception of the AP), work values and perceived control. The scales of beliefs and work values were combined into a single measure for the purpose of computing attitude towards pursuing a career in the AP. Each of these new scales and measures has a strong theoretical basis and exhibited high reliability, content and construct validity.

Third, at present there are no other empirical studies regarding an ACC by Greek business students. Most of the previous studies on an ACC have been conducted in

USA, Canada, UK, Ireland, Australia and New Zealand. Moreover, previous studies have investigated the ACC of accounting or business students, and tried to explain the factors that affected their choice of an accounting major. This thesis examined the ACC of business students with a management major during the first academic semester.

Fourth, the study has made several important empirical contributions. One such contribution is its examination of the effect of management students' subjective norm, attitude and perceived control upon their intention to pursue a career in the AP, using the theory of planned behaviour as a general theoretical framework. The study has proved empirically that all the above constructs of the theory are significant predictors of students' intention. The study further analysed vocational attitude in extrinsic, intrinsic, prestige and social dimension, and in their respective sub-dimensions. The statistical analysis revealed that only the intrinsic dimension of attitude and specifically cognitive behavioural beliefs concerning the nature of an accounting job and the skills and abilities needed for the AP are significantly associated with management students' intention to pursue an accounting career.

Fifth, the study empirically investigated the effect of traditional and innovative FACs respectively on management students' constructs of an ACC in an integrated theoretical approach. The study has proved empirically that changes in students' cognitive normative, behavioural and self-efficacy beliefs resulted in changes about their intention to pursue a career in the AP. The results of this investigation have important implications for the evaluation of educational interventions using the theory of planned behaviour. In addition, both the above findings have important implications for AE that are critically analysed in Section 10.5.

10.5 Practical implications

The empirical analysis presented in this thesis suggests that there are three statistically significant main constructs (predictors) associated with students' intention to pursue an accounting career, namely, subjective norm, attitude and perceived control. An important implication for accounting educators is that in order to attract more students into the profession they should find ways of improving these three constructs and their underlying cognitive beliefs. Recent attention has focused largely on improving attitude towards pursuing a career in the AP; however, subjective norm and perceived control are also important factors in selecting a career in the AP.

This implication signifies that improving business students' constructs of an ACC should be one of the primary goals of accounting academics in order to attract more students from business departments into the profession. One important forum for such efforts is the FAC. This study has revealed that the traditional FAC as structured and taught at the moment may have a negative effect on students' intention, attitude and perceived control. On the other hand, an innovative FAC that incorporated carefully planned professional accountants' presentations made a favourable impact on students' subjective norm, attitude and perceived control, and these changes positively affected students' intention to pursue a career in the AP. Thus, another important implication of the study is that modifications to the FACs are necessary to incorporate information concerning the attributes and outcomes associated with the profession, the skills and abilities needed by accountants and the potential of graduates from other business non-accounting departments to qualify and succeed in the profession. Moreover, for educators, the identified constructs and sub-constructs of an ACC can be used as guidelines in understanding their students' motivations in selecting an accounting career and in designing and planning the presentation and teaching of the FAC.

10.6 Limitations

Like every research endeavour, this study is limited in certain respects. These limitations must be taken into account while interpreting the research results. In this section, the key limitations of this study are as listed.

First, implicit in the study is the assumption that students' negative or positive intention strongly affects their final choice of their future occupation. This assumption seems reasonable but is not empirically tested and thus is one limitation of the study. As the study has investigated students' intention to pursue an accounting career during the first academic semester, it may be that intention is a poor predictor of real action to become an accountant in the future, most likely after graduation. The time interval between the measurement of intention and its predictors (subjective norm, attitude and perceived control) and assessment of behaviour is often taken as a proxy for stability because it is assumed that with the passage of time an increasing number of events may cause intentions to change. However, as many accounting researchers have pointed out, the FAC indeed has a crucial influence on an ACC, and research thus needs to examine the influence of a FAC on ACC constructs very early in the students' academic life and many years before a final decision is made.

Second, another limitation may be related to the issue of self-reported questionnaires. The new measures of intention, subjective norm, work values, beliefs (perception), attitude and perceived control were all self-reported and may have suffered from various types of bias, e.g., from mono method bias, mono operation bias and social desirability bias. Therefore, common method variance, which can inflate the observed relationships, is an issue that concerns the construct validity of the study (see, e.g., Campbell and Fiske, 1959; Spector and Brannick, 1995). Use of self-reports, however, may be the most valid method of data collection when subjective perceptions regarding an issue (e.g., personal beliefs concerning attributes and outcomes associated with the AP) are to be assessed (Schmitt, 1994). Spector (1994) suggests that measures with high reliabilities provide some protection against method variance. All the scales that were included in the present investigation have demonstrated high reliability coefficients. In addition, the data were gathered via self-report measures at two points in time (beginning and end of the semester). Therefore, it can be suggested that although no assertions can be made that the present study was immune to various types of bias, there is no particular reason to consider that this could be a serious threat to its validity.

Third, concerning the investigation of the effect of the FAC on an ACC, this thesis does not present a “true” or “laboratory” experiment, where the researcher has complete control over students, accounting educators and educational conditions. Rather, it reaches its conclusions on the basis of the results of quasi-experimental field research, where the independent variable was manipulated but without having full control. This type of research has weaknesses in internal control which confound interpretations of results (Marriott, 1998). No full control for the role of the individual accounting educator, teaching approach, content of FAC and textbook used on ACC constructs was possible due to the design of the study. Therefore, the issue of concerns about the internal validity of the intervention is still a present one.

Fourth, despite the use of a control group and initial equivalence concerning the constructs of an ACC between groups of students taking a traditional and an innovative FAC respectively, it was not possible to randomly assign students to groups, and to randomly assign groups to conditions. Therefore history, maturation and selection effects (Cook and Campell, 1979) may have affected the internal validity of the experiment and may confound interpretation of the results for the differences on constructs of an ACC between the groups taking a traditional vs. an innovative FAC. Furthermore, differential subject mortality is another potential threat to internal validity in the investigation of the effects of traditional and innovative FACs respectively on the

constructs of an ACC. Only students who attended class on the dates the instrument was administered took part, thus not all students participated in both surveys. The researcher administrated the final questionnaires at the ATEIs of Piraeus, Patra and Seres on the last day of the semester before the final exam, as proposed by previous accounting researchers (Nelson, 1992; Foster, 1995). Unfortunately, the accounting educators had already given instructions and announced the materials for the exam, thus only few students were in class to complete the final instrument. The subject mortality in these ATEI was 50-60% from the first round to the second round. At least the mortality was the same for traditional and innovative FAC groups as the ATEI of Piraeus represented an innovative FAC class and the ATEIs of Patra and Seres represented traditional ones.

Fifth, this study focused on one department, the Business Administration departments in ATEIs in Greece. While using a homogenous sample allows the researcher to control for extraneous factors that may otherwise confound the analysis, the researcher does not know whether these results would carry over to other business non-accounting departments, to other educational levels or to other countries. However, the systematic theoretical nature of the investigation makes the researcher confident that the new framework of an ACC can be extended to other departments, educational levels and countries.

Sixth, a final limitation of this study is that, by focusing on psychological vocational determinants of an ACC based on the theory of planned behaviour, it has failed to consider the importance of sociological personal variables such as family, personality, religion and culture. The theory assumes, however, that factors of this kind influence behaviour indirectly by affecting subjective norm, attitude and perception of behavioural control (Ajzen, 1991; Davis and Ajzen, 2002).

10.7 Future research

The aim of this section is to provide some suggestions for future research that might be considered in order to further improve our understanding of, and contribute to, ACC and AE literature.

The new integrated theoretical framework proposed by the study, while empirically validated in the ACC of Greek management students, could provide researchers with a tool that can be used for the investigation of an ACC in other research settings. Accounting researchers can use the integrated framework to understand the ACC of students in other business and general departments, and at different stages of

their educational life (high school, university). Conducting research concerning the ACC and using a common theoretical model will help accounting researchers to produce comparable data and conclusively identify the factors involved in this choice. Similarities and differences concerning the constructs of an ACC between students from different countries, at different stages of their educational life, and from different departments will be easily identified. In addition, using an integrated theoretical approach and common measures for ACC constructs, explanations how accounting education, how different pedagogical approaches and how different accounting educators affect the ACC can be observed.

Furthermore, vocational scholars in other disciplines can use the proposed framework for the examination of other specific career choices. In addition, the study provides a starting point for further research in this area, and especially for the successful implementation of interventions in accounting and other academic contexts.

Further research is needed to validate and improve the newly developed scales and measures of the constructs of career choice with other participants in a general and in an accounting research setting.

The research design of the present study does not permit full control of the effect of educational environment on the constructs of an ACC. Future research is needed to investigate the influence of information about the AP on the constructs of an ACC, using two groups of students taught by the same educator and exposed to the same educational environment. Furthermore, future research must examine the impact of accounting educators' personality, education, professional experiences and demographic characteristics to determine their influence on students' choice of the profession as their career.

Considerably less attention has been given to the construct perceived control over pursuing a career in the AP and its effect on students' ACC. There is a relatively small body of accounting research on the role of self-efficacy in business students' decision making regarding the pursuit of a career in the AP. There is no specific research on how students develop their sense of the occupational efficacy of the AP after their accounting courses. There are many unanswered questions as to why students have indicated negative beliefs regarding their skills and abilities to be accountants, why they may feel that it will be difficult for them to succeed in professional accounting exams and why they think that a management degree is not related to the AP. Qualitative and quantitative research is needed to clarify the effect of a traditional FAC on self-efficacy issues.

Further research is needed to investigate the significant differences concerning students' motivation to comply with significant others between students in negative vs. positive intention groups. In the early 1960s, Thielens (1966) attempted to identify certain self-described personality characteristics, where accounting students were noticeably different from students in general. He reported that accounting students described themselves as cooperative and quiet more often than students did in general. Is this another characteristic of the conservative nature of people who choose to pursue the accounting profession (Wolk and Nikolai 1997; Wheeler, 2001)?

The accounting profession has an important role in all European countries; however, with a few exceptions (UK and Ireland) there is a scarcity of research into the ACC in Europe in general and in Greece in particular. Therefore, there is a need to examine the ACC of business and accounting students and of accountants. This would provide us with a broad and clear picture of the constructs and sub-constructs involved in how and why the profession is chosen in different countries.

The study recommends more research on the role of AE and specifically of the FAC on ACC. Research is needed to compare different educational interventions and their effectiveness to influence the constructs of an ACC. Future research needs to prepare educational interventions specifically targeting all the cognitive components of an ACC.

Finally, research is needed to examine the potential and the content of practitioners' presentations to affect the constructs of an ACC. Professional accountants as presenters need to focus mainly on the nature of the accounting job, the skills and abilities needed by an accountant, and the diversity needed in the AP today. The effect of collaboration between supportive accounting educators and practitioners in the recruitment into the profession is another issue for further research.

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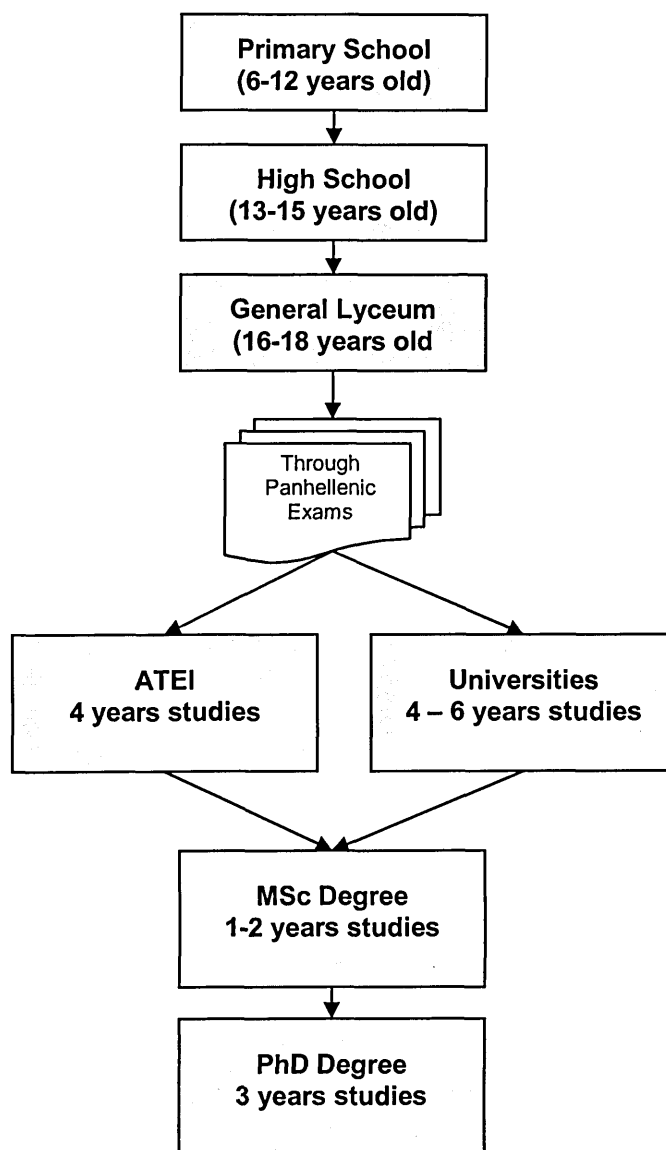
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Appendix 5.1 Greek Educational System



Appendix 5.2a English Questionnaire-Point 1

Questionnaire

Opinions for the Accounting profession

Dear students

I would like to thank you in advance for your cooperation in this study. The main purpose of this questionnaire is to explore the different opinions students taking economics courses have of the Accounting profession and of the benefits to be derived from it. In addition, this study examines the various factors that help shape the decisions of business students to pursue a career as an Accountant or not.

Your cooperation is vital for the success of the study because it will contribute to the collection of valid information about the Accounting profession and to the improvement of Accounting lectures. I would like to ask you to read carefully the following statements/questions in the questionnaire and tick answers that reflect your personal opinions.

Please note that there are no "right" or "wrong" answers to any of the questions. Please answer all the questions as fully and honestly as possible. There might be some questions where you don't have a personal opinion or the required knowledge to answer them. In that case you can select a neutral answer. For all other questions try to avoid giving a neutral answer – don't hesitate to give an extreme answer if it expresses your opinion. The questionnaire will probably take you around 15 minutes to complete.

The information you provide will be collected and only used for the purposes of this study. The answers you will give will not affect your grades in the Accounting course in any way.

Thank you for your time and your cooperation

Student's initials	Date of Birth (DD/MM/YY)
	/ /

Questionnaire

Opinions for the Accounting Profession

Please answer the following questions:

1. ATEI Department.....
2. Semester: Date of Birth:
3. Sex: Male ☐ Female ☐ Nationality:
4. Have you ever been taught Accounting during High School or any other school or in a previous semester
YES ☐ NO ☐

Part I

Work Values

- Further down is a list of certain work values that influence people when generally choosing a profession. Indicate how important the following values are for you in the choice of your profession.

Circle 1 if the work value is **not very important** to you.
 Circle 2 if the work value is **not important** to you.
 Circle 3 if the work value is **neutral** to you.
 Circle 4 if the work value is **important** to you.
 Circle 5 if the work value is **very important** to you.

	Not very important			Very important	
1. A job which is worthwhile to society	1	2	3	4	5
2. A job that offers good economic rewards and a rewarding life style	1	2	3	4	5
3. A job which is interesting to do	1	2	3	4	5
4. A job where the chances for advancement and promotion are good	1	2	3	4	5
5. A job which is relevant to your studies	1	2	3	4	5
6. A job where you can use your personal authority	1	2	3	4	5
7. A job where most problems are new and let you be creative	1	2	3	4	5
8. A job with convenient working hours and good working conditions	1	2	3	4	5
9. A job which challenges you intellectually	1	2	3	4	5
10. A job that has high status and prestige	1	2	3	4	5
11. A job where you can achieve your tasks	1	2	3	4	5
12. A job with independence and autonomy	1	2	3	4	5
13. A job where you get a chance to participate in decision making	1	2	3	4	5
14. A job where you can experience personal growth, acquire new skills and develop competency in new areas	1	2	3	4	5
15. A job where you work with others	1	2	3	4	5
16. A job that offers a secure and stable future	1	2	3	4	5

Self efficacy to pursue the Accounting Profession

- Further down you will find a list of sentences that reveal your beliefs on your ability to become an Accountant. State the degree to which you agree with the following sentences.

Disagree 1	Disagree a little 2	Neither Disagree Nor Agree 3	Agree a little 4	Agree 5
---------------	---------------------------	------------------------------------	------------------------	------------

	Disagree			Agree	
1. I think that I have the abilities and skills to be an accountant.	1	2	3	4	5
2. I believe that I will have a degree that is relevant to the accounting profession.	1	2	3	4	5
3. I think that I can successfully take the accounting professional exam.	1	2	3	4	5
4. I believe that I will easily find a job as accountant in the future.	1	2	3	4	5

Importance of possessing relevant vocational self efficacies

➤ How important is the following to you when choosing any profession.

	Not Important			Very Important	
	1	2	3	4	5
1. Ability and skills	1	2	3	4	5
2. Relevant degrees	1	2	3	4	5
3. Success in professional exams	1	2	3	4	5
4. Finding a job easily	1	2	3	4	5

Part II

Factors that affect the choice of the Accounting Profession

➤ State to which degree each sentence expresses your own views of the Accounting Profession by circling the corresponding number. There are no right or wrong answers.

Disagree 1	Disagree a little 2	Neither Disagree Nor Agree 3	Agree a little 4	Agree 5
---------------	---------------------------	------------------------------------	------------------------	------------

If I pursue the Accounting Profession:

	Disagree			Agree	
	1	2	3	4	5
1. I will have the social responsibility to provide the right financial information and advice.	1	2	3	4	5
2. I will have a secure and stable professional future.	1	2	3	4	5
3. I will have the chance of having a good salary.	1	2	3	4	5
4. My job will be creative and dynamic.	1	2	3	4	5
5. I will enjoy good working conditions.	1	2	3	4	5
6. I will have to use my mind in order to respond to my profession.	1	2	3	4	5
7. I will get ahead quickly in my career.	1	2	3	4	5
8. I will interact and cooperate with many people.	1	2	3	4	5
9. I can be promoted to senior level positions in a company/organization.	1	2	3	4	5
10. My job will involve conceptual skills and judgement.	1	2	3	4	5
11. A few years later I will able to work as consultant and business advisor.	1	2	3	4	5
12. I will have personal authority in my workplace.	1	2	3	4	5
13. In general I will have autonomy in the way I handle my work.	1	2	3	4	5
14. I will enjoy high social status and prestige.	1	2	3	4	5
15. I will meet with many different people in their job.	1	2	3	4	5
16. I will enjoy the same social recognition with lawyers, doctors and engineers.	1	2	3	4	5
17. I will have an interesting job.	1	2	3	4	5
18. I will work slowly and at my own pace.	1	2	3	4	5
19. My job will be monotonous, repetitive and tedious.	1	2	3	4	5
20. I will have convenient hours of work.	1	2	3	4	5
21. I will have the opportunity to participate in business decision making.	1	2	3	4	5

22. I will have a high standard of living.	1	2	3	4	5
23. I will have to combine different streams of knowledge in order to do my job.	1	2	3	4	5
24. I will achieve something important for my company.	1	2	3	4	5
25. The results of my job will be useful in all departments of the enterprise.	1	2	3	4	5
26. I will give financial advices to the owner of a business and others managers.	1	2	3	4	5
27. I will have a profession that I enjoy and which satisfies me professionally.	1	2	3	4	5
28. I will be working with pressure.	1	2	3	4	5
29. I will be able to contribute to the welfare of society.	1	2	3	4	5
30. The accounting profession matches to what I am studying.	1	2	3	4	5
31. I will have the opportunity to attend a lot of seminars for personal growth.	1	2	3	4	5
32. Each day there is always something new to learn in my accounting job.	1	2	3	4	5
33. My accounting knowledge and skills never go out of date.	1	2	3	4	5
34. I will have the chance of having my own business some day.	1	2	3	4	5
35. I will have a well respected occupation.	1	2	3	4	5
36. I will work with people more often than I work alone.	1	2	3	4	5
37. I will fully use my management knowledge and abilities in the accounting profession.	1	2	3	4	5
38. I will make a great social contribution.	1	2	3	4	5
39. I will easily find a job as an accountant.	1	2	3	4	5

Part III

Intention to pursue the Accounting Profession

- Further down there is a list of sentences that reveal your intention to pursue the accounting profession.

Circle 1 if you are **absolutely negative** about becoming an Accountant

Circle 2 if you are **negative**

Circle 3 if you **have not made up** your mind

Circle 4 if you are **positive** about becoming an Accountant

Circle 5 if you are **absolutely positive** about becoming an Accountant

	Absolutely negative			Absolutely positive	
1. Accounting is a job I might be very interested in having some day.	1	2	3	4	5
2. I like the accounting profession and will pursue it in the future.	1	2	3	4	5
3. My first choice will be the accounting profession.	1	2	3	4	5
4. I will follow the accounting profession if I find a job as accountant after my graduation.	1	2	3	4	5
5. I would enjoy being an accountant.	1	2	3	4	5

Persons that influence the choice of the Accounting Profession

- Indicate your agreement to the following sentences

	Disagree			Agree	
1. My family would like me to become an accountant.	1	2	3	4	5
2. My friends and peers believe that the accounting profession is a very good career choice.	1	2	3	4	5
3. Greek society considers the accounting profession one of the best career choices.	1	2	3	4	5
4. My teachers have encouraged me to pursue the accounting profession.	1	2	3	4	5

- How important is their opinion on your decision to choose your future career.

	Not Important			Very important	
1. Parents / Family	1	2	3	4	5
2. Peers / Friends	1	2	3	4	5
3. Greek Society	1	2	3	4	5
4. Teachers	1	2	3	4	5

Appendix 5.2b English Questionnaire-Point 2

Questionnaire

Opinions for the Accounting profession

Dear students

I would like to thank you in advance for your cooperation in this study. The main purpose of this questionnaire is to explore the different opinions students taking economics courses have of the Accounting profession and of the benefits to be derived from it. In addition, this study examines the various factors that help shape the decisions of business students to pursue a career as an Accountant or not.

Your cooperation is vital for the success of the study because it will contribute to the collection of valid information about the Accounting profession and to the improvement of Accounting lectures. I would like to ask you to read carefully the following statements/questions in the questionnaire and tick answers that reflect your personal opinions.

Please note that there are no "right" or "wrong" answers to any of the questions. Please answer all the questions as fully and honestly as possible. There might be some questions where you don't have a personal opinion or the required knowledge to answer them. In that case you can select a neutral answer. For all other questions try to avoid giving a neutral answer – don't hesitate to give an extreme answer if it expresses your opinion. The questionnaire will probably take you around 15 minutes to complete.

The information you provide will be collected and only used for the purposes of this study. The answers you will give will not affect your grades in the Accounting course in any way.

Thank you for your time and your cooperation

Student's initials	Date of Birth (DD/MM/YY)
	/ /

Questionnaire

Opinions for the Accounting Profession

Please answer the following questions:

- Have you followed the information course about the Accounting Profession?
YES ☐ NO ☐

1. ATEI

Department.....

2. Semester:.....

Date of Birth:

3. Sex: Male ☐ Female ☐

Nationality:.. ..

4. Have you ever been taught Accounting during High School or any other school or in a previous semester
YES ☐ NO ☐

Part I

Work Values

- Further down is a list of certain work values that influence people when generally choosing a profession. Indicate how important the following values are for you in the choice of your profession.

Circle 1 if the work value is **not very important** to you.
 Circle 2 if the work value is **not important** to you.
 Circle 3 if the work value is **neutral** to you.
 Circle 4 if the work value is **important** to you.
 Circle 5 if the work value is **very important** to you.

	Not very Important			Very important	
1. A job which is worthwhile to society	1	2	3	4	5
2. A job that offers good economic rewards and a rewarding life style	1	2	3	4	5
3. A job which is interesting to do	1	2	3	4	5
4. A job where the chances for advancement and promotion are good	1	2	3	4	5
5. A job which is relevant to your studies	1	2	3	4	5
6. A job where you can use your personal authority	1	2	3	4	5
7. A job where most problems are new and let you be creative	1	2	3	4	5
8. A job with convenient working hours and good working conditions	1	2	3	4	5
9. A job which challenges you intellectually	1	2	3	4	5
10. A job that has high status and prestige	1	2	3	4	5
11. A job where you can achieve your tasks	1	2	3	4	5
12. A job with independence and autonomy	1	2	3	4	5
13. A job where you get a chance to participate in decision making	1	2	3	4	5
14. A job where you can experience personal growth, acquire new skills and develop competency in new areas	1	2	3	4	5
15. A job where you work with others	1	2	3	4	5
16. A job that offers a secure and stable future	1	2	3	4	5

Self efficacy to pursue the Accounting Profession

- Further down you will find a list of sentences that reveal your beliefs on your ability to become an Accountant. State the degree to which you agree with the following sentences.

Disagree 1	Disagree a little 2	Neither Disagree Nor Agree 3	Agree a little 4	Agree 5
---------------	---------------------------	------------------------------------	------------------------	------------

	Disagree			Agree	
1. I think that I have the abilities and skills to be an accountant.	1	2	3	4	5
2. I believe that I will have a degree that is relevant to the accounting profession.	1	2	3	4	5
3. I think that I can successfully take the accounting professional exams.	1	2	3	4	5
4. I believe that I will easily find a job as accountant in the future.	1	2	3	4	5

Importance of possessing relevant vocational self efficacies

➤ How important is the following to you when choosing any profession.

	Not Important			Very Important	
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1. Ability and skills	1	2	3	4	5
2. Relevant degrees	1	2	3	4	5
3. Success in professional exams	1	2	3	4	5
4. Finding a job easily	1	2	3	4	5

Part II

Factors that affect the choice of the Accounting Profession

➤ State to which degree each sentence expresses your own views of the Accounting Profession by circling the corresponding number. There are no right or wrong answers.

Disagree 1	Disagree a little 2	Neither Disagree Nor Agree 3	Agree a little 4	Agree 5
---------------	---------------------------	------------------------------------	------------------------	------------

If I pursue the Accounting Profession:

	Disagree			Agree	
	1	2	3	4	5
1. I will have the social responsibility to provide the right financial information and advice.	1	2	3	4	5
2. I will have a secure and stable professional future.	1	2	3	4	5
3. I will have the chance of having a good salary.	1	2	3	4	5
4. My job will be creative and dynamic.	1	2	3	4	5
5. I will enjoy good working conditions.	1	2	3	4	5
6. I will have to use my mind in order to respond to my profession.	1	2	3	4	5
7. I will get ahead quickly in my career.	1	2	3	4	5
8. I will interact and cooperate with many people.	1	2	3	4	5
9. I can be promoted to senior level positions in a company/organization.	1	2	3	4	5
10. My job will involve conceptual skills and judgement.	1	2	3	4	5
11. A few years later I will be able to work as consultant and business advisor.	1	2	3	4	5
12. I will have personal authority in my workplace.	1	2	3	4	5
13. In general I will have autonomy in the way I handle my work.	1	2	3	4	5
14. I will enjoy high social status and prestige.	1	2	3	4	5
15. I will meet with many different people in their job.	1	2	3	4	5
16. I will enjoy the same social recognition with lawyers, doctors and engineers.	1	2	3	4	5
17. I will have an interesting job.	1	2	3	4	5
18. I will work slowly and at my own pace.	1	2	3	4	5
19. My job will be monotonous, repetitive and tedious.	1	2	3	4	5
20. I will have convenient hours of work.	1	2	3	4	5
21. I will have the opportunity to participate in business decision making.	1	2	3	4	5

22. I will have a high standard of living.	1	2	3	4	5
23. I will have to combine different streams of knowledge in order to do my job.	1	2	3	4	5
24. I will achieve something important for my company.	1	2	3	4	5
25. The results of my job will be useful in all departments of the enterprise.	1	2	3	4	5
26. I will give financial advices to the owner of a business and others managers.	1	2	3	4	5
27. I will have a profession that I enjoy and which satisfies me professionally.	1	2	3	4	5
28. I will be working with pressure.	1	2	3	4	5
29. I will be able to contribute to the welfare of society.	1	2	3	4	5
30. The accounting profession matches to what I am studying.	1	2	3	4	5
31. I will have the opportunity to attend a lot of seminars for personal growth.	1	2	3	4	5
32. Each day there is always something new to learn in my accounting job.	1	2	3	4	5
33. My accounting knowledge and skills never go out of date.	1	2	3	4	5
34. I will have the chance of having my own business some day.	1	2	3	4	5
35. I will have a well respected occupation.	1	2	3	4	5
36. I will work with people more often than I work alone.	1	2	3	4	5
37. I will fully use my management knowledge and abilities in the accounting profession.	1	2	3	4	5
38. I will make a great social contribution.	1	2	3	4	5
39. I will easily find a job as an accountant.	1	2	3	4	5

Part III

Intention to pursue the Accounting Profession

- Further down there is a list of sentences that reveal your intention to pursue the accounting profession.

Circle 1 if you are **absolutely negative** about becoming an Accountant

Circle 2 if you are **negative**

Circle 3 if you **have not made up** your mind

Circle 4 if you are **positive** about becoming an Accountant

Circle 5 if you are **absolutely positive** about becoming an Accountant

	Absolutely negative				Absolutely positive
1. Accounting is a job I might be very interested in having some day.	1	2	3	4	5
2. I like the accounting profession and will pursue it in the future.	1	2	3	4	5
3. My first choice will be the accounting profession.	1	2	3	4	5
4. I will follow the accounting profession if I find a job as accountant after my graduation.	1	2	3	4	5
5. I would enjoy being an accountant.	1	2	3	4	5

Persons that influence the choice of the Accounting Profession

- Indicate your agreement to the following sentences

	Disagree				Agree
1. My family would like me to become an accountant.	1	2	3	4	5
2. My friends and peers believe that the accounting profession is a very good career choice.	1	2	3	4	5
3. Greek society considers the accounting profession one of the best career choices.	1	2	3	4	5
4. My teachers have encouraged me to pursue the accounting profession.	1	2	3	4	5

- How important is their opinion on your decision to choose your future career.

	Not Important				Very important
1. Parents / Family	1	2	3	4	5
2. Peers / Friends	1	2	3	4	5
3. Greek Society	1	2	3	4	5
4. Teachers	1	2	3	4	5

Part IV

Perception of the First Accounting Course

➤ Indicate whether you agree to the following sentences

	Disagree			Agree	
1. The accounting course is easy and comprehensive.	1	2	3	4	5
2. The accounting course is just a lot of memorizing of rules.	1	2	3	4	5
3. The accounting course is very interesting.	1	2	3	4	5
4. I like the accounting course.	1	2	3	4	5
5. The accounting course involved a great deal of work.	1	2	3	4	5
6. The exercises in the accounting course seemed very difficult to me.	1	2	3	4	5
7. The textbook used in the accounting course is simple and comprehensive.	1	2	3	4	5
8. One needs to attend the accounting course to be successful in the final exam	1	2	3	4	5
9. I had no difficulties in solving the accounting exercises.	1	2	3	4	5
10. The accounting course is boring.	1	2	3	4	5
11. For me the accounting course was the most interesting course compared to the other courses in this semester.	1	2	3	4	5
12. I believe that the accounting course is easy for those students who are good at maths and numerical exercises.	1	2	3	4	5
13. I believe that I will succeed in the final exam of the accounting course.	1	2	3	4	5

Impression of the Accounting Educator

➤ Indicate whether you agree to the following sentences about your Accounting Educator (AE)

	Disagree			Agree	
1. The AE was the best teacher I had during my studies.	1	2	3	4	5
2. The AE had the ability to communicate.	1	2	3	4	5
3. The AE made the lesson pleasant.	1	2	3	4	5
4. The AE was very friendly to the students.	1	2	3	4	5
5. The AE knew how to make the FAC interesting.	1	2	3	4	5
6. The AE was fair to the students.	1	2	3	4	5
7. The AE made me love accountancy.	1	2	3	4	5
8. The AE had a positive influence on my view of the AP.	1	2	3	4	5
9. The AE made every effort to explain accounting in a simple way.	1	2	3	4	5
10. The AE was very lively in the presentation of the lesson.	1	2	3	4	5
11. The AE was very patient and repeatedly explained difficult concepts.	1	2	3	4	5
12. The AE knew accounting well as a science and as a practice.	1	2	3	4	5
13. The AE was cold and indifferent while teaching.	1	2	3	4	5
14. The AE was ironic to the students.	1	2	3	4	5

ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ

Απόψεις για το Λογιστικό Επάγγελμα

Αγαπητές/οί φοιτήτριες/ές

Ευχαριστούμε για την συμμετοχή σας σε αυτή την έρευνα. Η έρευνα αυτή έχει σαν κύριο σκοπό να μελετήσει τις απόψεις των φοιτητών οικονομικών σχολών για το Λογιστικό επάγγελμα. Επιπλέον διερευνά τους παράγοντες που διαμορφώνουν την απόφαση των φοιτητών να ακολουθήσουν ή όχι το Λογιστικό επάγγελμα.

Η συνεργασία σας είναι ιδιαίτερα σημαντική καθώς θα συμβάλει στην συλλογή αξιόπιστων πληροφοριών σχετικά με το Λογιστικό επάγγελμα και στη βελτίωση του τρόπου διδασκαλίας των Λογιστικών μαθημάτων. Σας παρακαλώ να διαβάσετε προσεκτικά τις προτάσεις/ερωτήσεις του ερωτηματολογίου και να σημειώσετε την απάντηση που εκφράζει καλύτερα την άποψή σας.

Στο ερωτηματολόγιο δεν υπάρχουν σωστές και λάθος απαντήσεις. Παρακαλούμε μόνο να συμπληρώσετε με ειλικρίνεια τι πιστεύετε για τα ερωτήματα. Για ερωτήματα που δεν έχετε διαμορφωμένη άποψη χρησιμοποιήσετε την ουδέτερη απάντηση. Σε οποιαδήποτε άλλη ερώτηση αποφύγετε την ουδέτερη απάντηση και μην διστάσετε να χρησιμοποιήσετε ακραίες απαντήσεις, εάν αυτές εκφράζουν την άποψή σας. Το ερωτηματολόγιο χρειάζεται 20 λεπτά για να απαντηθεί.

Τα στοιχεία που θα συγκεντρωθούν θα είναι συλλογικά, θα χρησιμοποιηθούν αποκλειστικά για την έρευνα αυτή και με κανένα τρόπο δεν θα επηρεάσουν τον βαθμό σας στο μάθημα της Λογιστικής.

Ευχαριστώ

Αρχικά Σπουδαστή	Ημερ. Γεν. (ΗΗ/ΜΜ/ΕΕ)
	/ /

Δημογραφικά Στοιχεία

Παρακαλώ να απαντήσετε στα παρακάτω ερωτήματα :

1. Εκπαιδευτικό Ίδρυμα Τμήμα
2. Εξάμηνο: Έτος Γεννήσεως:
3. Φύλο: Άνδρας ☐ Γυναίκα ☐ Εθνικότης:
4. Έχετε διδαχθεί Λογιστική στο Λύκειο ή σε άλλη σχολή ή σε προηγούμενο
εξάμηνο
.....ΝΑΙ ☐ ΟΧΙ ☐

Μέρος Ι

Γενικές Αξίες Εργασίας

- Παρακάτω παρατίθενται ορισμένες αξίες εργασίας που επηρεάζουν τους ανθρώπους να επιλέξουν γενικά επάγγελμα. Δηλώστε πόσο σημαντικές εσείς θεωρείτε τις παρακάτω αξίες για την επιλογή του επαγγέλματός σας.

Κυκλώστε το 1 εφόσον είναι **Καθόλου** σημαντική η αξία εργασίας για σας.
 Κυκλώστε το 2 εφόσον είναι **Λίγο** σημαντική η αξία εργασίας για σας.
 Κυκλώστε το 3 εφόσον είναι **Μέτρια** σημαντική η αξία εργασίας για σας.
 Κυκλώστε το 4 εφόσον είναι **Πολύ** σημαντική η αξία εργασίας για σας.
 Κυκλώστε το 5 εφόσον είναι **Εξαιρετικά** σημαντική η αξία εργασίας για σας.

Πόσο σημαντική είναι η παρακάτω αξία

	Καθόλου			Εξαιρετικά	
	1	2	3	4	5
1. Για μένα να προσφέρω στην γενική ευημερία της κοινωνίας είναι:					
2. Για μένα η αμοιβή της εργασίας είναι:					
3. Για μένα να κάνω μία εργασία που με ευχαριστεί και προκαλεί το ενδιαφέρον μου είναι:					
4. Για μένα να εξελίσσομαι και να προωθούμαι επαγγελματικά είναι:					
5. Για μένα να έχω μία εργασία με αντικείμενο σχετικό με τις σπουδές μου είναι:					
6. Για μένα να έχω επαγγελματική δύναμη και να επιβλέπω την εργασία των άλλων εργαζομένων είναι:					
7. Για μένα να κάνω μία δημιουργική εργασία και να χρησιμοποιώ νέες ιδέες είναι:					
8. Για μένα ο χώρος και οι συνθήκες εργασίας είναι:					
9. Για μένα να κάνω μία πνευματική εργασία είναι:					
10. Για μένα το να έχω επαγγελματικό κοινωνικό κύρος και καταξίωση είναι:					
11. Για μένα να επιτυγχάνω κάτι σημαντικό στον χώρο εργασίας μου και να ξεχωρίζω από τους άλλους εργαζομένους είναι:					
12. Για μένα να έχω αυτονομία όταν εργάζομαι είναι:					
13. Για μένα να συμμετέχω στην λήψη αποφάσεων της επιχείρησης/οργανισμού που εργάζομαι είναι:					
14. Για μένα να αποκτώ νέες γνώσεις και δεξιότητες από την εργασία μου είναι:					
15. Για μένα να εργάζομαι και να συναναστρέφομαι διαφορετικούς ανθρώπους στο χώρο της εργασίας μου είναι:					
16. Για μένα η επαγγελματική σταθερότητα και ασφάλεια είναι:					

Ικανότητα να ακολουθήσετε το Λογιστικό Επάγγελμα

- Στην συνέχεια παρατίθεται μία σειρά προτάσεων που φανερώνουν τα πιστεύω σας για την ικανότητά σας να γίνεται Λογιστής. Δηλώστε το βαθμό συμφωνία σας στις παρακάτω προτάσεις.

1. Διαφωνώ Απόλυτα
2. Διαφωνώ Λίγο
3. Ούτε Διαφωνώ Ούτε Συμφωνώ
4. Συμφωνώ Λίγο
5. Συμφωνώ Απόλυτα

	Διαφωνώ			Συμφωνώ	
1. Πιστεύω ότι έχω την κλίση και την ικανότητα να ακολουθήσω την Λογιστική καριέρα	1	2	3	4	5
2. Πιστεύω ότι θα έχω ένα πτυχίο σχετικό με το Λογιστικό Επάγγελμα	1	2	3	4	5
3. Πιστεύω ότι με ευκολία θα επιτύχω στις επαγγελματικές εξετάσεις πιστοποίησης του Λογιστικού επαγγέλματος	1	2	3	4	5
4. Πιστεύω ότι με ευκολία θα βρω εργασία σαν Λογιστής	1	2	3	4	5

Σημαντικά στοιχεία για να ακολουθήσετε ένα επάγγελμα

- Πόσο σημαντικά θεωρείτε τα παρακάτω για να ακολουθήσετε ένα επάγγελμα.

	Καθόλου σημαντικά			Εξαιρετικά	
1. Να είμαι ικανός και να έχω κλίση για το επάγγελμα	1	2	3	4	5
2. Να έχω ένα σχετικό πτυχία που χρειάζεται στο επάγγελμα	1	2	3	4	5
3. Να μπορώ να επιτύχω στις επαγγελματικές εξετάσεις πιστοποίησης του επαγγέλματος	1	2	3	4	5
4. Να βρω εύκολα εργασία στο συγκεκριμένο επάγγελμα	1	2	3	4	5

Μέρος II

Παράγοντες που επηρεάζουν την επιλογή του Λογιστικού Επαγγέλματος

- Στην συνέχεια παρατίθενται ορισμένες προτάσεις σχετικές με τα χαρακτηριστικά και τις απολαβές του Λογιστικού Επαγγέλματος. Δεν υπάρχουν σωστές και λάθος απαντήσεις. Αναφέρετε κυκλώνοντας τον αντίστοιχο αριθμό σε ποιο βαθμό η κάθε πρόταση εκφράζει την δική σας άποψη για το Λογιστικό Επάγγελμα.

1. Διαφωνώ Απόλυτα
2. Διαφωνώ Λίγο
3. Ούτε Διαφωνώ Ούτε Συμφωνώ
4. Συμφωνώ Λίγο
5. Συμφωνώ Απόλυτα

Εάν ακολουθήσω το Λογιστικό Επάγγελμα

	Διαφωνώ			Συμφωνώ	
1. Θα έχω μεγάλη κοινωνική ευθύνη	1	2	3	4	5
2. Θα έχω ένα ασφαλές και σταθερό επαγγελματικό μέλλον	1	2	3	4	5
3. Θα έχω ένα καλό εισόδημα από την εργασία μου	1	2	3	4	5
4. Θα πρέπει να συνδυάζω διαφορετικές γνώσεις για να ανταποκριθώ στις απαιτήσεις της εργασίας μου	1	2	3	4	5
5. Θα εργάζομαι κάτω από καλές συνθήκες εργασίας	1	2	3	4	5
6. Θα κάνω κυρίως πνευματική εργασία	1	2	3	4	5
7. Θα έχω γρήγορη επαγγελματική εξέλιξη και προώθηση	1	2	3	4	5
8. Θα συνεργάζομαι με πολλά άτομα κάθε μέρα μέσα και έξω από την επιχείρηση	1	2	3	4	5
9. Θα έχω την δυνατότητα να εξελιχθώ σε Διευθυντικό στέλεχος της επιχείρησης που θα εργάζομαι	1	2	3	4	5
10. Η εργασία μου θα είναι κυρίως μηχανική με επαναλαμβανόμενες δραστηριότητες κάθε μέρα	1	2	3	4	5
11. Υστερα από μερικά χρόνια θα είμαι ικανός να εργαστώ σαν Σύμβουλος επιχειρήσεων	1	2	3	4	5
12. Θα έχω την δυνατότητα να αξιολογώ την οικονομική πορεία και αποδοτικότητα όλων των τμημάτων της επιχείρησης	1	2	3	4	5
13. Γενικά θα έχω αυτονομία ως προς τον τρόπο που θα κάνω την εργασία μου	1	2	3	4	5
14. Θα έχω υψηλό κοινωνικό κύρος	1	2	3	4	5
15. Θα έχω την ευκαιρία να συναντώ και να γνωρίζω νέους ανθρώπους	1	2	3	4	5
16. Θα έχω την ίδια κοινωνική αναγνώριση με δικηγόρους, γιατρούς και μηχανικούς	1	2	3	4	5
17. Θα κάνω μία ενδιαφέρουσα εργασία	1	2	3	4	5
18. Κυρίως θα εργάζομαι με τον τρόπο που θέλω εγώ	1	2	3	4	5
19. Θα πρέπει να χρησιμοποιώ το μυαλό μου για να ανταποκριθώ στην εργασία μου	1	2	3	4	5
20. Οι καθημερινές ώρες εργασίας μου θα είναι "Λογικές"	1	2	3	4	5
21. Μελλοντικά θα συμμετέχω στην λήψη αποφάσεων της επιχείρησης/οργανισμού που θα εργάζομαι	1	2	3	4	5
22. Μελλοντικά θα έχω ένα υψηλό μισθό	1	2	3	4	5
23. Θα χρειάζεται να είμαι δημιουργικός και να έχω νέες ιδέες για να είμαι επιτυχημένος σαν Λογιστής	1	2	3	4	5
24. Θα βοηθάω σημαντικά την Επιχείρηση/Οργανισμό που θα εργάζομαι	1	2	3	4	5
25. Θα είμαι χρήσιμος σε όλα τα τμήματα της Επιχείρησης	1	2	3	4	5
26. Θα συμβουλευώ την Διοίκηση της επιχείρησης για κάθε οικονομικό πρόβλημα	1	2	3	4	5

Σελίδα 5

27. Θα κάνω μία εργασία που μου αρέσει και με ικανοποιεί επαγγελματικά	1	2	3	4	5
28. Θα εργάζομαι χωρίς πίεση	1	2	3	4	5
29. Θα μπορώ έμμεσα να βοηθάω στην οικονομική ευημερία των συνανθρώπων μου	1	2	3	4	5
30. Το Λογιστικό επάγγελμα ταιριάζει με αυτό που σπουδάζω	1	2	3	4	5
31. Θα έχω την ευκαιρία να επιμορφώνομαι σε σεμινάρια και διαλέξεις	1	2	3	4	5
32. Θα έχω την ευκαιρία κάθε μέρα να μαθαίνω κάτι καινούργιο	1	2	3	4	5
33. Η εμπειρία και οι γνώσεις μου ποτέ δεν θα ξεπεραστούν, πάντα θα είμαι χρήσιμος για την επιχείρηση	1	2	3	4	5
34. Θα έχω την ευκαιρία να έχω την δική μου επιχείρηση (π.χ. Λογιστικό Γραφείο)	1	2	3	4	5
35. Θα θεωρούμαι καταξιωμένος επαγγελματίας και εργαζόμενος	1	2	3	4	5
36. Θα εργάζομαι σε ένα επαγγελματικό χώρο με πολλούς εργαζόμενους	1	2	3	4	5
37. Θα χρησιμοποιώ τις γνώσεις και δεξιότητες που απέκτησα κατά την διάρκεια των σπουδών μου στο Τ.Δ.Ε.	1	2	3	4	5
38. Θα έχω μεγάλη κοινωνική συνεισφορά	1	2	3	4	5
39. Θα μπορέσω εύκολα να βρω εργασία μετά τις σπουδές μου	1	2	3	4	5

Μέρος III

Πρόθεση να ακολουθήσετε το Λογιστικό Επάγγελμα

- Στην συνέχεια παρατίθεται μία σειρά προτάσεων που φανερώνουν εάν έχετε πρόθεση να ακολουθήσετε το Λογιστικό Επάγγελμα.

Εάν είστε απόλυτα αρνητικοί να γίνετε Λογιστές κυκλώστε το 1
Εάν είστε λιγότερο αρνητικοί κυκλώστε το 2
Εάν δεν έχετε αποφασίσει κυκλώστε το 3
Εάν το σκέπτεστε να γίνετε Λογιστές κυκλώστε το 4
Εάν έχετε αποφασίσει οριστικά να γίνετε Λογιστές κυκλώστε το 5

	Απόλυτα αρνητικός			Οριστικά Λογιστής		
1. Θα με ενδιέφερε μετά τις σπουδές μου να γίνω Λογιστής	1	2	3	4	5	
2. Το λογιστικό επάγγελμα μου αρέσει και θα το ακολουθήσω στο μέλλον	1	2	3	4	5	
3. Η πρώτη μου επαγγελματική επιλογή στο μέλλον θα είναι το λογιστικό επάγγελμα	1	2	3	4	5	
4. Θα ακολουθήσω το λογιστικό επάγγελμα αν βρω εργασία σαν Λογιστής μετά τις σπουδές μου	1	2	3	4	5	
5. Έχω πρόθεση να γίνω Λογιστής μετά τις σπουδές μου	1	2	3	4	5	

Πρόσωπα που επηρεάζουν την επιλογή του Επαγγέλματος

- Δηλώστε την συμφωνία σας με τις παρακάτω προτάσεις

	Διαφωνώ			Συμφωνώ		
1. Οι γονείς μου θα ικανοποιηθούν αν ακολουθήσω το Λογιστικό Επάγγελμα	1	2	3	4	5	
2. Οι φίλοι και συμφοιτητές μου θεωρούν καλή επαγγελματική επιλογή το Λογιστικό επάγγελμα	1	2	3	4	5	
3. Το κοινωνικό μου περιβάλλον θεωρεί το Λογιστικό επάγγελμα ένα από τα καλύτερα επαγγέλματα	1	2	3	4	5	
4. Οι καθηγητές μου με έχουν ενθαρρύνει να γίνω Λογιστής	1	2	3	4	5	

- Πόσο σημαντική θεωρείτε την γνώμη τους στην απόφασή σας για την επιλογή της μελλοντικής σας καριέρας.

	Καθόλου σημαντική			Πολύ σημαντική		
1. Γονείς / Οικογένεια	1	2	3	4	5	
2. Συμφοιτητές / Φίλοι	1	2	3	4	5	
3. Κοινωνικό Περιβάλλον	1	2	3	4	5	
4. Καθηγητές	1	2	3	4	5	

ΕΡΩΤΗΜΑΤΟΛΟΓΙΟ

Απόψεις για το Λογιστικό Επάγγελμα

Αγαπητές/οί φοιτήτριες/ές

Ευχαριστούμε για την συμμετοχή σας σε αυτή την έρευνα. Η έρευνα αυτή έχει σαν κύριο σκοπό να μελετήσει τις απόψεις των φοιτητών οικονομικών σχολών για το Λογιστικό επάγγελμα. Επιπλέον διερευνά τους παράγοντες που διαμορφώνουν την απόφαση των φοιτητών να ακολουθήσουν ή όχι το Λογιστικό επάγγελμα.

Η συνεργασία σας είναι ιδιαίτερα σημαντική καθώς θα συμβάλει στην συλλογή αξιόπιστων πληροφοριών σχετικά με το Λογιστικό επάγγελμα και στη βελτίωση του τρόπου διδασκαλίας των Λογιστικών μαθημάτων. Σας παρακαλώ να διαβάσετε προσεκτικά τις προτάσεις/ερωτήσεις του ερωτηματολογίου και να σημειώσετε την απάντηση που εκφράζει καλύτερα την άποψή σας.

Στο ερωτηματολόγιο δεν υπάρχουν σωστές και λάθος απαντήσεις. Παρακαλούμε μόνο να συμπληρώσετε με ειλικρίνεια τι πιστεύετε για τα ερωτήματα. Για ερωτήματα που δεν έχετε διαμορφωμένη άποψη χρησιμοποιήσετε την ουδέτερη απάντηση. Σε οποιαδήποτε άλλη ερώτηση αποφύγετε την ουδέτερη απάντηση και μην διστάσετε να χρησιμοποιήσετε ακραίες απαντήσεις, εάν αυτές εκφράζουν την άποψή σας. Το ερωτηματολόγιο χρειάζεται 20 λεπτά για να απαντηθεί.

Τα στοιχεία που θα συγκεντρωθούν θα είναι συλλογικά, θα χρησιμοποιηθούν αποκλειστικά για την έρευνα αυτή και με κανένα τρόπο δεν θα επηρεάσουν τον βαθμό σας στο μάθημα της Λογιστικής.

Ευχαριστώ

Μέρος Ι

Γενικές Αξίες Εργασίας

- Παρακάτω παρατίθενται ορισμένες αξίες εργασίας που επηρεάζουν τους ανθρώπους να επιλέξουν γενικά επάγγελμα. Δηλώστε πόσο σημαντικές εσείς θεωρείτε τις παρακάτω αξίες για την επιλογή του επαγγέλματός σας.

Κυκλώστε το 1 εφόσον είναι **Καθόλου** σημαντική η αξία εργασίας για σας.
Κυκλώστε το 2 εφόσον είναι **Λίγο** σημαντική η αξία εργασίας για σας.
Κυκλώστε το 3 εφόσον είναι **Μέτρια** σημαντική η αξία εργασίας για σας.
Κυκλώστε το 4 εφόσον είναι **Πολύ** σημαντική η αξία εργασίας για σας.
Κυκλώστε το 5 εφόσον είναι **Εξαιρετικά** σημαντική η αξία εργασίας για σας.

Πόσο σημαντική είναι η παρακάτω αξία

Καθόλου

Εξαιρετικά

	1	2	3	4	5
1. Για μένα να προσφέρω στην γενική ευημερία της κοινωνίας είναι:	1	2	3	4	5
2. Για μένα η αμοιβή της εργασίας είναι:	1	2	3	4	5
3. Για μένα να κάνω μία εργασία που με ευχαριστεί και προκαλεί το ενδιαφέρον μου είναι:	1	2	3	4	5
4. Για μένα να εξελισσώμαι και να προωθούμαι επαγγελματικά είναι:	1	2	3	4	5
5. Για μένα να έχω μία εργασία με αντικείμενο σχετικό με τις σπουδές μου είναι:	1	2	3	4	5
6. Για μένα να έχω επαγγελματική δύναμη και να επιβλέπω την εργασία των άλλων εργαζομένων είναι:	1	2	3	4	5
7. Για μένα να κάνω μία δημιουργική εργασία και να χρησιμοποιώ νέες ιδέες είναι:	1	2	3	4	5
8. Για μένα ο χώρος και οι συνθήκες εργασίας είναι:	1	2	3	4	5
9. Για μένα να κάνω μία πνευματική εργασία είναι:	1	2	3	4	5
10. Για μένα το να έχω επαγγελματικό κοινωνικό κύρος και καταξίωση είναι:	1	2	3	4	5
11. Για μένα να επιτυγχάνω κάτι σημαντικό στον χώρο εργασίας μου και να ξεχωρίζω από τους άλλους εργαζομένους είναι:	1	2	3	4	5
12. Για μένα να έχω αυτονομία όταν εργάζομαι είναι:	1	2	3	4	5
13. Για μένα να συμμετέχω στην λήψη αποφάσεων της επιχείρησης/οργανισμού που εργάζομαι είναι:	1	2	3	4	5
14. Για μένα να αποκτώ νέες γνώσεις και δεξιότητες από την εργασία μου είναι:	1	2	3	4	5
15. Για μένα να εργάζομαι και να συναναστρέφομαι διαφορετικούς ανθρώπους στο χώρο της εργασίας μου είναι:	1	2	3	4	5
16. Για μένα η επαγγελματική σταθερότητα και ασφάλεια είναι:	1	2	3	4	5

Ικανότητα να ακολουθήσετε το Λογιστικό Επάγγελμα

- Στην συνέχεια παρατίθεται μία σειρά προτάσεων που φανερώνουν τα πιστεύω σας για την ικανότητά σας να γίνεται Λογιστής. Δηλώστε το βαθμό συμφωνία σας στις παρακάτω προτάσεις.

1. Διαφωνώ Απόλυτα
2. Διαφωνώ Λίγο
3. Ούτε Διαφωνώ Ούτε Συμφωνώ
4. Συμφωνώ Λίγο
5. Συμφωνώ Απόλυτα

	Διαφωνώ			Συμφωνώ	
1. Πιστεύω ότι έχω την κλίση και την ικανότητα να ακολουθήσω την Λογιστική καριέρα	1	2	3	4	5
2. Πιστεύω ότι θα έχω ένα πτυχίο σχετικό με το Λογιστικό Επάγγελμα	1	2	3	4	5
3. Πιστεύω ότι με ευκολία θα επιτύχω στις επαγγελματικές εξετάσεις πιστοποίησης του Λογιστικού επαγγέλματος	1	2	3	4	5
4. Πιστεύω ότι με ευκολία θα βρω εργασία σαν Λογιστής	1	2	3	4	5

Σημαντικά στοιχεία για να ακολουθήσετε ένα επάγγελμα

- Πόσο σημαντικά θεωρείτε τα παρακάτω για να ακολουθήσετε ένα επάγγελμα.

	Καθόλου σημαντικά			Εξαιρετικά	
1. Να είμαι ικανός και να έχω κλίση για το επάγγελμα	1	2	3	4	5
2. Να έχω ένα σχετικό πτυχία που χρειάζεται στο επάγγελμα	1	2	3	4	5
3. Να μπορώ να επιτύχω στις επαγγελματικές εξετάσεις πιστοποίησης του επαγγέλματος	1	2	3	4	5
4. Να βρω εύκολα εργασία στο συγκεκριμένο επάγγελμα	1	2	3	4	5

Μέρος II

Παράγοντες που επηρεάζουν την επιλογή του Λογιστικού Επαγγέλματος

- Στην συνέχεια παρατίθενται ορισμένες προτάσεις σχετικές με τα χαρακτηριστικά και τις απολαβές του Λογιστικού Επαγγέλματος. Δεν υπάρχουν σωστές και λάθος απαντήσεις. Αναφέρετε κυκλώνοντας τον αντίστοιχο αριθμό σε ποιο βαθμό η κάθε πρόταση εκφράζει την δική σας άποψη για το Λογιστικό Επάγγελμα.

1. Διαφωνώ Απόλυτα
2. Διαφωνώ Λίγο
3. Ούτε Διαφωνώ Ούτε Συμφωνώ
4. Συμφωνώ Λίγο
5. Συμφωνώ Απόλυτα

Εάν ακολουθήσω το Λογιστικό Επάγγελμα

	Διαφωνώ			Συμφωνώ	
1. Θα έχω μεγάλη κοινωνική ευθύνη	1	2	3	4	5
2. Θα έχω ένα ασφαλές και σταθερό επαγγελματικό μέλλον	1	2	3	4	5
3. Θα έχω ένα καλό εισόδημα από την εργασία μου	1	2	3	4	5
4. Θα πρέπει να συνδυάζω διαφορετικές γνώσεις για να ανταποκριθώ στις απαιτήσεις της εργασίας μου	1	2	3	4	5
5. Θα εργάζομαι κάτω από καλές συνθήκες εργασίας	1	2	3	4	5
6. Θα κάνω κυρίως πνευματική εργασία	1	2	3	4	5
7. Θα έχω γρήγορη επαγγελματική εξέλιξη και προώθηση	1	2	3	4	5
8. Θα συνεργάζομαι με πολλά άτομα κάθε μέρα μέσα και έξω από την επιχείρηση	1	2	3	4	5
9. Θα έχω την δυνατότητα να εξελιχθώ σε Διευθυντικό στέλεχος της επιχείρησης που θα εργάζομαι	1	2	3	4	5
10. Η εργασία μου θα είναι κυρίως μηχανική με επαναλαμβανόμενες δραστηριότητες κάθε μέρα	1	2	3	4	5
11. Υστερα από μερικά χρόνια θα είμαι ικανός να εργαστώ σαν Σύμβουλος επιχειρήσεων	1	2	3	4	5
12. Θα έχω την δυνατότητα να αξιολογώ την οικονομική πορεία και αποδοτικότητα όλων των τμημάτων της επιχείρησης	1	2	3	4	5
13. Γενικά θα έχω αυτονομία ως προς τον τρόπο που θα κάνω την εργασία μου	1	2	3	4	5
14. Θα έχω υψηλό κοινωνικό κύρος	1	2	3	4	5
15. Θα έχω την ευκαιρία να συναντώ και να γνωρίζω νέους ανθρώπους	1	2	3	4	5
16. Θα έχω την ίδια κοινωνική αναγνώριση με δικηγόρους, γιατρούς και μηχανικούς	1	2	3	4	5
17. Θα κάνω μία ενδιαφέρουσα εργασία	1	2	3	4	5
18. Κυρίως θα εργάζομαι με τον τρόπο που θέλω εγώ	1	2	3	4	5
19. Θα πρέπει να χρησιμοποιώ το μυαλό μου για να ανταποκριθώ στην εργασία μου	1	2	3	4	5
20. Οι καθημερινές ώρες εργασίας μου θα είναι "Λογικές"	1	2	3	4	5
21. Μελλοντικά θα συμμετέχω στην λήψη αποφάσεων της επιχείρησης/οργανισμού που θα εργάζομαι	1	2	3	4	5
22. Μελλοντικά θα έχω ένα υψηλό μισθό	1	2	3	4	5
23. Θα χρειάζεται να είμαι δημιουργικός και να έχω νέες ιδέες για να είμαι επιτυχημένος σαν Λογιστής	1	2	3	4	5
24. Θα βοηθάω σημαντικά την Επιχείρηση/Οργανισμό που θα εργάζομαι	1	2	3	4	5
25. Θα είμαι χρήσιμος σε όλα τα τμήματα της Επιχείρησης	1	2	3	4	5
26. Θα συμβουλευώ την Διοίκηση της επιχείρησης για κάθε οικονομικό πρόβλημα	1	2	3	4	5
27. Θα κάνω μία εργασία που μου αρέσει και με ικανοποιεί επαγγελματικά	1	2	3	4	5

Σελίδα 5

28. Θα εργάζομαι χωρίς πίεση	1	2	3	4	5
29. Θα μπορώ έμμεσα να βοηθάω στην οικονομική ευημερία των συνανθρώπων μου	1	2	3	4	5
30. Το Λογιστικό επάγγελμα ταιριάζει με αυτό που σπουδάζω	1	2	3	4	5
31. Θα έχω την ευκαιρία να επιμορφώνομαι σε σεμινάρια και διαλέξεις	1	2	3	4	5
32. Θα έχω την ευκαιρία κάθε μέρα να μαθαίνω κάτι καινούργιο	1	2	3	4	5
33. Η εμπειρία και οι γνώσεις μου ποτέ δεν θα ξεπεραστούν, πάντα θα είμαι χρήσιμος για την επιχείρηση	1	2	3	4	5
34. Θα έχω την ευκαιρία να έχω την δική μου επιχείρηση (π.χ. Λογιστικό Γραφείο)	1	2	3	4	5
35. Θα θεωρούμαι καταξιωμένος επαγγελματίας και εργαζόμενος	1	2	3	4	5
36. Θα εργάζομαι σε ένα επαγγελματικό χώρο με πολλούς εργαζόμενους	1	2	3	4	5
37. Θα χρησιμοποιώ τις γνώσεις και δεξιότητες που απέκτησα κατά την διάρκεια των σπουδών μου στο Τ.Δ.Ε.	1	2	3	4	5
38. Θα έχω μεγάλη κοινωνική συνεισφορά	1	2	3	4	5
39. Θα μπορέσω εύκολα να βρω εργασία μετά τις σπουδές μου	1	2	3	4	5

Μέρος III

Πρόθεση να ακολουθήσετε το Λογιστικό Επάγγελμα

- Στην συνέχεια παρατίθεται μία σειρά προτάσεων που φανερώνουν εάν έχετε πρόθεση να ακολουθήσετε το Λογιστικό Επάγγελμα.

Εάν είστε απόλυτα αρνητικοί να γίνετε Λογιστές κυκλώστε το 1
Εάν είστε λιγότερο αρνητικοί κυκλώστε το 2
Εάν δεν έχετε αποφασίσει κυκλώστε το 3
Εάν το σκέπτεστε να γίνετε Λογιστές κυκλώστε το 4
Εάν έχετε αποφασίσει οριστικά να γίνετε Λογιστές κυκλώστε το 5

	Απόλυτα αρνητικός			Οριστικά Λογιστής		
1. Θα με ενδιέφερε μετά τις σπουδές μου να γίνω Λογιστής	1	2	3	4	5	
2. Το λογιστικό επάγγελμα μου αρέσει και θα το ακολουθήσω στο μέλλον	1	2	3	4	5	
3. Η πρώτη μου επαγγελματική επιλογή στο μέλλον θα είναι το λογιστικό επάγγελμα	1	2	3	4	5	
4. Θα ακολουθήσω το λογιστικό επάγγελμα αν βρω εργασία σαν Λογιστής μετά τις σπουδές μου	1	2	3	4	5	
5. Έχω πρόθεση να γίνω Λογιστής μετά τις σπουδές μου	1	2	3	4	5	

Πρόσωπα που επηρεάζουν την επιλογή του Επαγγέλματος

- Δηλώστε την συμφωνία σας με τις παρακάτω προτάσεις

	Διαφωνώ			Συμφωνώ		
1. Οι γονείς μου θα ικανοποιηθούν αν ακολουθήσω το Λογιστικό Επάγγελμα	1	2	3	4	5	
2. Οι φίλοι και συμφοιτητές μου θεωρούν καλή επαγγελματική επιλογή το Λογιστικό επάγγελμα	1	2	3	4	5	
3. Το κοινωνικό μου περιβάλλον θεωρεί το Λογιστικό επάγγελμα ένα από τα καλύτερα επαγγέλματα	1	2	3	4	5	
4. Οι καθηγητές μου με έχουν ενθαρρύνει να γίνω Λογιστής	1	2	3	4	5	

- Πόσο σημαντική θεωρείτε την γνώμη τους στην απόφασή σας για την επιλογή της μελλοντικής σας καριέρας.

	Καθόλου σημαντική			Πολύ σημαντική		
1. Γονείς / Οικογένεια	1	2	3	4	5	
2. Συμφοιτητές / Φίλοι	1	2	3	4	5	
3. Κοινωνικό Περιβάλλον	1	2	3	4	5	
4. Καθηγητές	1	2	3	4	5	

Μέρος IV

Δυσκολία Μαθήματος Λογιστικής

➤ Δηλώστε την συμφωνία σας με τις παρακάτω προτάσεις

	Διαφωνώ			Συμφωνώ	
1. Το μάθημα της Λογιστικής είναι εύκολο και κατανοητό.	1	2	3	4	5
2. Το μάθημα της Λογιστικής είναι κυρίως τεχνικό και δεν χρειάζεται πολύ σκέψη.	1	2	3	4	5
3. Το μάθημα της Λογιστικής μου τράβηξε το ενδιαφέρον.	1	2	3	4	5
4. Το μάθημα της Λογιστικής μου άρεσε.	1	2	3	4	5
5. Το μάθημα της Λογιστικής είχε μεγάλο φόρτο εργασίας.	1	2	3	4	5
6. Οι ασκήσεις της Λογιστικής μου φάνηκαν δύσκολες.	1	2	3	4	5
7. Το βιβλίο της Λογιστικής I είναι απλό και κατανοητό.	1	2	3	4	5
8. Η Λογιστική I χρειάζεται παρακολούθηση για να γράψει κάποιος επιτυχώς στις τελικές εξετάσεις.	1	2	3	4	5
9. Δεν αντιμετώπισα ιδιαίτερη δυσκολία στο να λύνω ασκήσεις Λογιστικής.	1	2	3	4	5
10. Το μάθημα της Λογιστικής μου φάνηκε βαρετό και κουραστικό.	1	2	3	4	5
11. Το μάθημα της Λογιστικής για μένα είχε το μεγαλύτερο ενδιαφέρον σχετικά με τα άλλα μαθήματα του Α' εξαμήνου.	1	2	3	4	5
12. Πιστεύω ότι το μάθημα της Λογιστικής είναι εύκολο για τους φοιτητές που είναι καλοί στα Μαθηματικά και τις αριθμητικές πράξεις.	1	2	3	4	5
13. Πιστεύω ότι θα γράψω επιτυχώς στο μάθημα της Λογιστικής στις τελικές εξετάσεις.	1	2	3	4	5

Εντύπωση για το καθηγητή της Λογιστικής I

➤ Ο καθηγητής της Λογιστικής

	Διαφωνώ			Συμφωνώ	
1. Ήταν ο καλύτερος δάσκαλος που είχα κατά τη διάρκεια των σπουδών μου μέχρι σήμερα.	1	2	3	4	5
2. Είχε μεγάλη μεταδοτικότητα	1	2	3	4	5
3. Έκανε το μάθημα ευχάριστο	1	2	3	4	5
4. Ήταν πολύ φιλικός με τους φοιτητές	1	2	3	4	5
5. Γνώριζε πώς να κάνει το μάθημα της Λογιστικής ενδιαφέρον	1	2	3	4	5
6. Ήταν δίκαιος με τους φοιτητές	1	2	3	4	5
7. Με έκανε να αγαπήσω τη Λογιστική	1	2	3	4	5
8. Επηρέασε θετικά τη άποψη μου για το Λογιστικό Επάγγελμα	1	2	3	4	5
9. Έκανε κάθε προσπάθεια να εξηγήσει τη Λογιστική με απλό τρόπο	1	2	3	4	5
10. Ήταν πολύ ζωντανός κατά τη παρουσίαση του μαθήματος	1	2	3	4	5
11. Είχε μεγάλη υπομονή και εξηγούσε πολλές φορές τις δύσκολες έννοιες	1	2	3	4	5
12. Ήξερε καλά την Λογιστική σαν επιστήμη και αντικείμενο	1	2	3	4	5
13. Ήταν ψυχρός και απαθής όταν δίδασκε	1	2	3	4	5
14. Ήταν ειρωνικός με τους φοιτητές	1	2	3	4	5

Appendix 6.1 Scales of the study

Construct of Subjective Norm

Normative beliefs scale	
SN1	My family would like me to become an accountant.
SN2	My friends and peers believe that the AP is a very good career choice.
SN3	The Greek society considers that the AP one of the best career choices.
SN4	My teachers have encouraged me to pursue the AP.

Motivation to comply scale	
SN5	The opinion of my family is important for my career choice.
SN6	The opinion of my friends and peers is important for my career choice.
SN7	The opinion of society is important for my career choice.
SN8	The opinion of my teachers is important for my career choice.

Construct of Attitude

Work values scale	
Extrinsic work values	
WV1	A job that offers a secure and stable future.
WV2	A job with a good economic rewards and a rewarding life style.
WV3	A job with convenient working hours and good work conditions.
Prestige work values	
WV4	A job where the chances for advancement and promotion are good.
WV5	A job where you get a chance to participate in decision making.
WV6	A job where you can use your personal authority.
WV7	A job that has high status and prestige.
Intrinsic work values	
WV8	A job which is interesting to do.
WV9	A job which challenges you intellectually.
WV10	A job where most problems are new and creative.
WV11	A job where you can achieve your tasks.
WV12	A job with independence and autonomy.
WV13	A job which is relevant to your studies.
WV14	A job that you have personal growth, and you acquire new skills and competences.
Social work values	
WV15	A job where you work with others.
WV16	A job which is worthwhile to society.

Accounting beliefs scale	
1. Extrinsic beliefs	
Security	
AB1	I will easily find a job as an accountant.
AB2	I will have a secure and stable professional future.
Economic rewards	
AB3	I will have the chance of having a good salary.
AB4	I will have a high standard of living.
Work conditions	
AB5	I will enjoy good working conditions.
AB6	I will have convenient hours of work.
2. Prestige beliefs	
Advancement and promotion	
AB7	I will get ahead quickly in my career.
AB8	I will have the chance of having my own business some day.
AB9	I can be promoted to senior level positions in a company/organization.
Management/Decision making	
AB10	I will have the opportunity to participate in business decision making.
AB11	A few years later I will able to work as consultant and business advisor
Personal Authority	
AB12	I will have personal authority in my workplace.
AB13	I will give financial advices to the owner of a business and others managers.
Status	
AB14	I will enjoy high social status and prestige.
AB15	I will have a well respected occupation.
AB16	I will enjoy the same social recognition with lawyers, doctors and engineers
3. Intrinsic beliefs	
Interesting job	
AB17	I will have an interesting job.
AB18	I will have a profession that I enjoy and which satisfies me professionally.
AB21	My job will be monotonous, repetitive and tedious.
Intellectual stimulation	
AB19	I will have to use my mind in order to respond to my profession.
AB20	My job will involve conceptual skills and judgement.
Creative job	
AB22	My job will be creative and dynamic.
AB23	I will have to combine different streams of knowledge in order to do my job.
Achievement	
AB24	I will achieve something important for my company.
AB25	The results of my job will be useful in all departments of the enterprise.
Stress/Independent job	
AB26	In general I will have autonomy in the way I handle my work.
AB27	I will work slowly and at my own pace.
AB28	I will be working with pressure.
Job relevant with management studies	
AB29	I will fully use my management knowledge and abilities in the accounting profession.
AB30	The accounting profession matches to what I am studying.

Personal growth	
AB31	I will have the opportunity to attend a lot of seminars for personal growth.
AB32	Each day there is always something new to learn in my accounting job.
AB33	My accounting knowledge and skills never go out of date.
4. Social beliefs	
Work with others	
AB34	I will interact and cooperate with many people.
AB35	I will meet with many different people in their job.
AB36	I will work with people more often than I work alone.
Contribution to society	
AB37	I will be able to contribute to the welfare of society.
AB38	I will make a great social contribution.
AB39	I will have the social responsibility to provide the right financial information and advice.

Construct of Perceived Control

Accounting self efficacy beliefs scale	
PC1	I think that I have the abilities and skills to be an accountant.
PC2	I believe that I will have a relevant degree to the accounting profession
PC3	I think I can successfully take the accounting professional exams.
PC4	I believe that I will find easily a job as accountant in the future.

Importance of possessing the specific self efficacies scale	
PC5	Ability and skills in order to pursue an occupation.
PC6	Relevant degrees in order to pursue an occupation.
PC7	To succeed in the professional exams in order to pursue an occupation.
PC8	Finding a job easily.

Construct of Intention

Accounting intention scale	
I1	Accounting is a job I might be very interested in having someday.
I2	I like the AP and I will pursue it in the future.
I3	My first choice will be the Accounting profession.
I4	I will follow the AP if I will find a job as accountant after my graduation.
I5	I would enjoy being an accountant.

Confounding variable-Perception of FAC

Perception of FAC scale
FAC1 The FAC is easy and comprehensive.
FAC2 The FAC is just a lot of rule-memorizing.
FAC3 The FAC is very interesting.
FAC4 I like the FAC.
FAC5 The FAC involved a great load of work.
FAC6 The exercise of the FAC seemed very difficult to me.
FAC7 The textbook used in the FAC is simple and comprehensive.
FAC8 One needs to attend the FAC in order to pass successfully the final exam.
FAC9 I had no difficulties in solving accounting exercises.
FAC10 The FAC is boring.
FAC11 For me, the FAC it was the most interesting course compared to the other courses in this semester.
FAC12 I believe that the FAC is easy for those students who are good at maths and numerical exercises.
FAC13 I believe that I will succeed in the final exam of the FAC.

Confounding variable-Impression of Accounting educator

Impression of Accounting educator scale
AE 1 The AE was the best teacher I had during my studies.
AE 2 The AE had the ability to communicate.
AE 3 The AE made the lesson pleasant.
AE 4 The AE was very friendly to the students.
AE 5 The AE knew how to make the FAC interesting.
AE 6 The AE was fair to the students.
AE 7 The AE made me love accountancy.
AE 8 The AE had a positive influence on my view of the AP.
AE 9 The AE made every effort to explain accountancy in a simple way.
AE 10 The AE was very lively in the presentation of the lesson.
AE 11 The AE was very patient and repeatedly explained difficult concepts.
AE 12 The AE knew accounting well as a science and as a practice.
AE 13 The AE was cold and indifferent while teaching.
AE 14 The AE was ironic to the students.

Appendix 7.1 Mediation effect

Table 1 Model Summary Stage I

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.422(a)	.178	.176	3.96420	.178	95.827	1	442	.000

a Predictors: (Constant), Perception of FAC

Table 2 ANOVA Stage I

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	49.003	1	49.003	95.827	.000(a)
	Residual	226.027	442	.511		
	Total	275.030	443			

a Predictors: (Constant), Intrinsic Dim

c Dependent Variable: Perception of FAC

Table 3 Coefficients Stage I

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.248	.791		10.425	.000
	FAC	2.340	.239	.422	9.789	.000

b Dependent Variable: Intrinsic Dim

Table 4 Model Summary Stage II

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.557(a)	.310	.309	.88136	.310	207.112	1	460	.000

a Predictors: (Constant), Intrinsic Dim

Table 5 ANOVA Stage II

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	160.884	1	160.884	207.112	.000(a)
	Residual	357.327	460	.777		
	Total	518.211	461			

a Predictors: (Constant), Intrinsic Dim

b Dependent Variable: Intention

Table 6 Coefficients Stage II

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.637	.154		4.144	.000
	DimIntrinsic	.135	.009	.557	14.391	.000

a Dependent Variable: Intention

Table 7 Model Summary Stage III

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.557(a)	.310	.309	.88140	.310	199.008	1	442	.000
2	.636(b)	.404	.401	.82024	.094	69.372	1	441	.000

a Predictors: (Constant), Intrinsic Dim

b Predictors: (Constant), Intrinsic Dim, Perception of FAC

Table 8 ANOVA Stage III

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	154.602	1	154.602	199.008	.000(a)
	Residual	343.375	442	.777		
	Total	497.977	443			
2	Regression	201.275	2	100.638	149.582	.000(b)
	Residual	296.702	441	.673		
	Total	497.977	443			

a Predictors: (Constant), Intrinsic Dim

b Predictors: (Constant), Intrinsic Dim, Perception of FAC

c Dependent Variable: Intention

Table 9 Coefficients Stage III

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	.637	.157		4.062	.000
	Intrinsic Dim	.135	.010	.557	14.107	.000
2	(Constant)	-.278	.183		-1.521	.129
	Intrinsic Dim	.101	.010	.415	10.227	.000
	Perception of FAC	.454	.055	.338	8.329	.000

a Dependent Variable: Intention

Appendix 7.2a Differences concerning the constructs of ACC among groups of intention-Beginning of the FAC

Table 1 Multiple Comparisons Tukey HSD-Beginning of the FAC

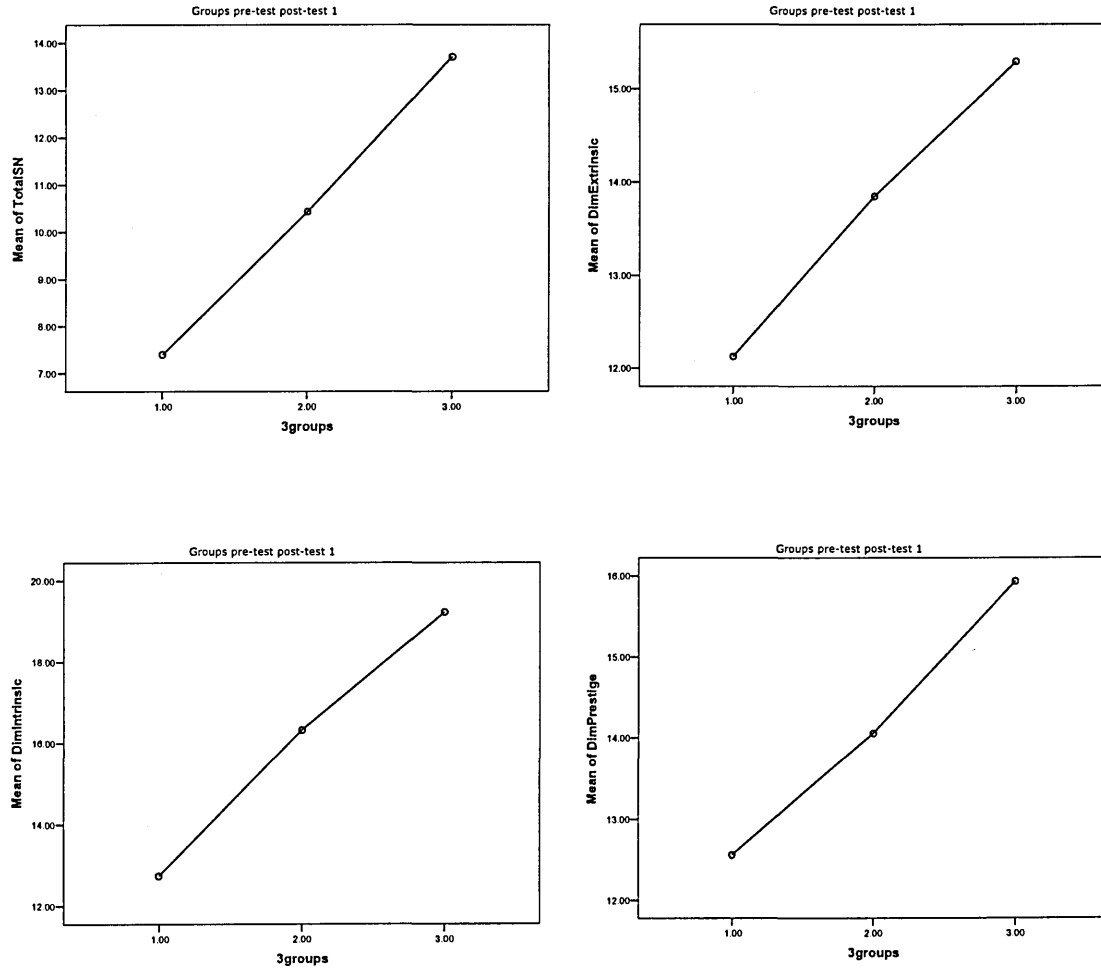
Dependent Variable	3groups of intention	3groups of intention	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
SN	1.00	2.00	-3.03318(*)	.36982	.000	-3.9021	-2.1642
		3.00	-6.30829(*)	.48958	.000	-7.4587	-5.1579
	2.00	1.00	3.03318(*)	.36982	.000	2.1642	3.9021
		3.00	-3.27511(*)	.47254	.000	-4.3855	-2.1648
	3.00	1.00	6.30829(*)	.48958	.000	5.1579	7.4587
		2.00	3.27511(*)	.47254	.000	2.1648	4.3855
Extrinsic Dim	1.00	2.00	-1.72480(*)	.31004	.000	-2.4534	-.9962
		3.00	-3.16724(*)	.40856	.000	-4.1273	-2.2072
	2.00	1.00	1.72480(*)	.31004	.000	.9962	2.4534
		3.00	-1.44245(*)	.39464	.001	-2.3698	-.5151
	3.00	1.00	3.16724(*)	.40856	.000	2.2072	4.1273
		2.00	1.44245(*)	.39464	.001	.5151	2.3698
Intrinsic Dim	1.00	2.00	-3.57657(*)	.32383	.000	-4.3375	-2.8156
		3.00	-6.48146(*)	.42736	.000	-7.4857	-5.4772
	2.00	1.00	3.57657(*)	.32383	.000	2.8156	4.3375
		3.00	-2.90489(*)	.41386	.000	-3.8774	-1.9324
	3.00	1.00	6.48146(*)	.42736	.000	5.4772	7.4857
		2.00	2.90489(*)	.41386	.000	1.9324	3.8774
Prestige Dim	1.00	2.00	-1.49604(*)	.35237	.000	-2.3240	-.6680
		3.00	-3.37451(*)	.46481	.000	-4.4667	-2.2823
	2.00	1.00	1.49604(*)	.35237	.000	.6680	2.3240
		3.00	-1.87846(*)	.44864	.000	-2.9327	-.8243
	3.00	1.00	3.37451(*)	.46481	.000	2.2823	4.4667
		2.00	1.87846(*)	.44864	.000	.8243	2.9327
Attitude	1.00	2.00	-2.15527(*)	.27150	.000	-2.7933	-1.5172
		3.00	-4.19055(*)	.35502	.000	-5.0249	-3.3562
	2.00	1.00	2.15527(*)	.27150	.000	1.5172	2.7933
		3.00	-2.03528(*)	.34387	.000	-2.8434	-1.2272
	3.00	1.00	4.19055(*)	.35502	.000	3.3562	5.0249
		2.00	2.03528(*)	.34387	.000	1.2272	2.8434
PC	1.00	2.00	-3.68949(*)	.35598	.000	-4.5259	-2.8530
		3.00	-6.76816(*)	.47275	.000	-7.8790	-5.6573
	2.00	1.00	3.68949(*)	.35598	.000	2.8530	4.5259
		3.00	-3.07868(*)	.45698	.000	-4.1525	-2.0049
	3.00	1.00	6.76816(*)	.47275	.000	5.6573	7.8790
		2.00	3.07868(*)	.45698	.000	2.0049	4.1525

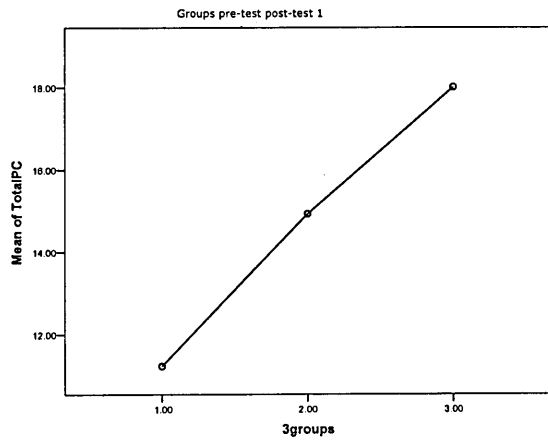
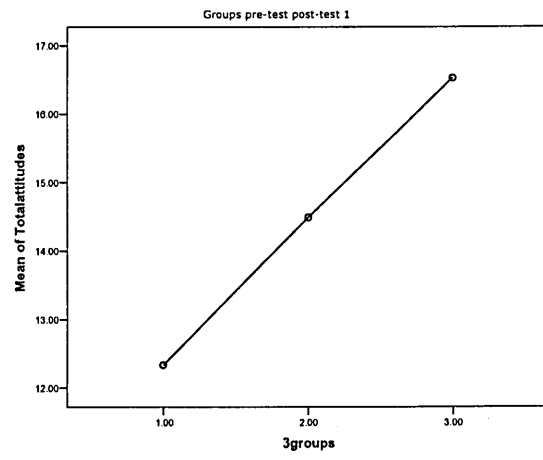
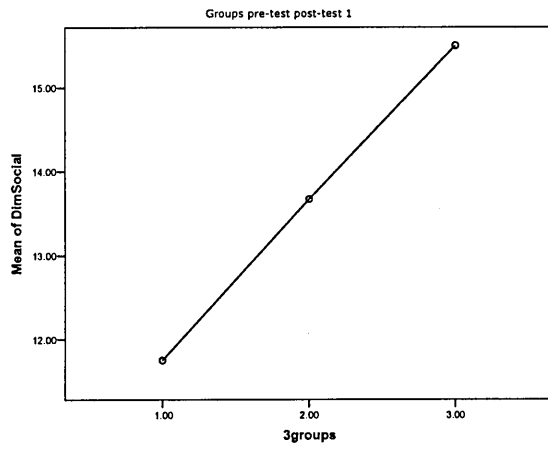
Table 2 Multiple Comparisons (Sheffe test)-Beginning of the FAC

Dependent Variable	3groups of intention	3groups of intention	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
SN	1.00	2.00	-3.03318(*)	.36982	.000	-3.9407	-2.1256
		3.00	-6.30829(*)	.48958	.000	-7.5097	-5.1068
	2.00	1.00	3.03318(*)	.36982	.000	2.1256	3.9407
		3.00	-3.27511(*)	.47254	.000	-4.4348	-2.1155
	3.00	1.00	6.30829(*)	.48958	.000	5.1068	7.5097
		2.00	3.27511(*)	.47254	.000	2.1155	4.4348
Extrinsic Dim	1.00	2.00	-1.72480(*)	.31004	.000	-2.4857	-.9639
		3.00	-3.16724(*)	.40856	.000	-4.1699	-2.1646
	2.00	1.00	1.72480(*)	.31004	.000	.9639	2.4857
		3.00	-1.44245(*)	.39464	.001	-2.4110	-.4739
	3.00	1.00	3.16724(*)	.40856	.000	2.1646	4.1699
		2.00	1.44245(*)	.39464	.001	.4739	2.4110
Intrinsic Dim	1.00	2.00	-3.57657(*)	.32383	.000	-4.3713	-2.7818
		3.00	-6.48146(*)	.42736	.000	-7.5303	-5.4326
	2.00	1.00	3.57657(*)	.32383	.000	2.7818	4.3713
		3.00	-2.90489(*)	.41386	.000	-3.9206	-1.8892
	3.00	1.00	6.48146(*)	.42736	.000	5.4326	7.5303
		2.00	2.90489(*)	.41386	.000	1.8892	3.9206
Prestige Dim	1.00	2.00	-1.49604(*)	.35237	.000	-2.3608	-.6313
		3.00	-3.37451(*)	.46481	.000	-4.5152	-2.2338
	2.00	1.00	1.49604(*)	.35237	.000	.6313	2.3608
		3.00	-1.87846(*)	.44864	.000	-2.9795	-.7774
	3.00	1.00	3.37451(*)	.46481	.000	2.2338	4.5152
		2.00	1.87846(*)	.44864	.000	.7774	2.9795
Social Dim	1.00	2.00	-1.91839(*)	.39425	.000	-2.8859	-.9508
		3.00	-3.74921(*)	.51948	.000	-5.0241	-2.4743
	2.00	1.00	1.91839(*)	.39425	.000	.9508	2.8859
		3.00	-1.83083(*)	.50230	.001	-3.0635	-.5981
	3.00	1.00	3.74921(*)	.51948	.000	2.4743	5.0241
		2.00	1.83083(*)	.50230	.001	.5981	3.0635
Attitude	1.00	2.00	-2.15527(*)	.27150	.000	-2.8216	-1.4889
		3.00	-4.19055(*)	.35502	.000	-5.0619	-3.3192
	2.00	1.00	2.15527(*)	.27150	.000	1.4889	2.8216
		3.00	-2.03528(*)	.34387	.000	-2.8793	-1.1913
	3.00	1.00	4.19055(*)	.35502	.000	3.3192	5.0619
		2.00	2.03528(*)	.34387	.000	1.1913	2.8793
PC	1.00	2.00	-3.68949(*)	.35598	.000	-4.5631	-2.8159
		3.00	-6.76816(*)	.47275	.000	-7.9283	-5.6080
	2.00	1.00	3.68949(*)	.35598	.000	2.8159	4.5631
		3.00	-3.07868(*)	.45698	.000	-4.2002	-1.9572
	3.00	1.00	6.76816(*)	.47275	.000	5.6080	7.9283
		2.00	3.07868(*)	.45698	.000	1.9572	4.2002

* The mean difference is significant at the .05 level.

Fig. 1-7 Means Plot-Differences among groups-Beginning of the FAC





Appendix 7.2b Differences concerning the SN among groups of intention

Table 1 Descriptive statistics- Constructs of SN

Time	Variable	Group	N	Mean	Std. Deviation
Beginning	Normative beliefs	1.00	213	2.3920	.78463
		2.00	271	3.0821	.67525
		3.00	100	3.7900	.77094
		Total	584	2.9516	.88253
	Motivation to comply	1.00	214	2.8598	.88723
		2.00	271	3.2066	.78923
		3.00	100	3.4275	.86770
		Total	585	3.1175	.86440

Table 2 Test of Homogeneity of Variances- Constructs of SN

Time		Levene Statistic	df1	df2	Sig.
Beginning	Normative beliefs	8.160	2	581	.065
	Motivation to comply	2.329	2	582	.098

Table 3 ANOVA Test-Constructs of SN

Time			Sum of Squares	df	Mean Square	F	Sig.
Beginning	Normative beliefs	Between Groups	141.604	2	70.802	131.649	.000
		Within Groups	312.467	581	.538		
		Total	454.071	583			
	Motivation to comply	Between Groups	25.974	2	12.987	18.418	.000
		Within Groups	410.384	582	.705		
		Total	436.358	584			

Table 4 Multiple Comparisons among groups of intention concerning the constructs of SN (Tukey HSD)

Dependent Variable	3groups of intention	3groups of intention	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Normative beliefs	1.00	2.00	-.69008(*)	.06715	.000	-.8479	-.5323
		3.00	-1.39798(*)	.08890	.000	-1.6069	-1.1891
	2.00	1.00	.69008(*)	.06715	.000	.5323	.8479
		3.00	-.70790(*)	.08581	.000	-.9095	-.5063
	3.00	1.00	1.39798(*)	.08890	.000	1.1891	1.6069
		2.00	.70790(*)	.08581	.000	.5063	.9095
Motivation to comply	1.00	2.00	-.34683	.07679	.000	-.5273	-.1664
		3.00	-.56769(*)	.10172	.000	-.8067	-.3287
	2.00	1.00	.34683	.07679	.000	.1664	.5273
		3.00	-.22086	.09825	.064	-.4517	.0100
	3.00	1.00	.56769(*)	.10172	.000	.3287	.8067
		2.00	.22086	.09825	.064	-.0100	.4517

* The mean difference is significant at the .05 level.

Table 5 Descriptive statistics- Dimensions of SN

Time	Variable	Group	N	Mean	Std. Deviation
Beginning	SN family	1.00	214	8.6355	5.27710
		2.00	271	12.4317	5.23750
		3.00	100	16.7200	6.70004
		Total	585	11.7761	6.20065
	SN friends/peers	1.00	213	6.3709	3.86182
		2.00	271	9.0148	4.66108
		3.00	100	11.6500	5.75313
		Total	584	8.5017	4.95849
	SN society	1.00	214	7.4813	4.79114
		2.00	271	10.0443	4.88439
		3.00	100	13.0600	6.04498
		Total	585	9.6222	5.42058
	SN teachers	1.00	214	5.6075	4.43155
		2.00	271	9.1365	5.57440
		3.00	100	12.9200	7.30114
		Total	585	8.4923	6.09629
	Subjective Norm	1.00	213	7.0246	3.52204
		2.00	271	10.1568	3.77183
		3.00	100	13.5875	4.72720
		Total	584	9.6019	4.49319

Table 6 Descriptive statistics- Individual Items of SN

Time	Variable	Group	N	Mean	Std. Deviation
Beginning	My family would like me to become an accountant	1.00	214	2.40	1.037
		2.00	271	3.20	.946
		3.00	100	4.03	1.039
		Total	585	3.05	1.149
	My peers & friend believe the AP is a very good career choice	1.00	213	2.46	.973
		2.00	271	3.09	.898
		3.00	100	3.69	1.012
		Total	584	2.96	1.040
	The Greek society think that the AP is between the best career choices	1.00	214	2.62	1.058
		2.00	271	3.21	.894
		3.00	100	3.85	.914
		Total	585	3.11	1.051
	My teachers have encourage me to follow the AP	1.00	214	2.09	1.109
		2.00	271	2.82	1.025
		3.00	100	3.59	1.280
		Total	585	2.69	1.220
	Parents/Family	1.00	214	3.52	1.306
		2.00	271	3.83	1.032
		3.00	100	3.99	1.159
		Total	585	3.75	1.173
	Peers/friends	1.00	214	2.55	1.023
		2.00	271	2.82	1.003
		3.00	100	3.01	1.096
		Total	585	2.76	1.039
	Society	1.00	214	2.77	1.151
		2.00	271	3.06	1.063
		3.00	100	3.29	1.122
		Total	585	2.99	1.120
	Teacherss	1.00	214	2.60	1.262
		2.00	271	3.11	1.275
		3.00	100	3.42	1.327
		Total	585	2.98	1.313

Appendix 7.2c Differences concerning the Attitude among groups of intention

Table 1 Descriptive statistics- Work values

Time	Variable	Group	N	Mean	Std. Deviation
Beginning	Extrinsic WV	1.00	212	4.3514	.43646
		2.00	267	4.3848	.40911
		3.00	100	4.3800	.44021
		Total	579	4.3718	.42427
	Intrinsic WV	1.00	212	4.2818	.56914
		2.00	268	4.3349	.51660
		3.00	100	4.5500	.38271
		Total	580	4.3526	.52427
	Prestige WV	1.00	212	4.3160	.62104
		2.00	269	4.1765	.60168
		3.00	100	4.2567	.56428
		Total	581	4.2412	.60496
	Social WV	1.00	213	3.6338	.84518
		2.00	267	3.7678	.78545
		3.00	100	3.8950	.71526
		Total	580	3.7405	.80069

Table 2 Descriptive statistics-Beliefs concerning attributes and outcomes associated with the AP

Time	Variable	Group	N	Mean	Std. Deviation
Beginning	Extrinsic beliefs	1.00	211	2.8744	.66665
		2.00	268	3.2453	.57500
		3.00	99	3.6010	.56347
		Total	578	3.1708	.65964
	Intrinsic beliefs	1.00	212	2.9941	.70256
		2.00	264	3.7415	.58745
		3.00	98	4.2028	.51037
		Total	574	3.5442	.76703
	Prestige beliefs	1.00	213	2.9513	.69495
		2.00	270	3.3634	.62989
		3.00	100	3.7388	.61881
		Total	583	3.2772	.70948
	Social beliefs	1.00	213	2.3650	.57920
		2.00	270	2.6699	.49815
		3.00	100	2.9313	.49377
		Total	583	2.6033	.56540

Table 3 Test of Homogeneity of Variances -Dimensions of WV and Beliefs

Time		Levene Statistic	df1	df2	Sig.
Beginning	Extrinsic WV	.313	2	576	.732
	Intrinsic WV	5.919	2	577	.003
	Prestige WV	.143	2	578	.867
	Social WV	1.597	2	577	.203
	Extrinsic beliefs	3.476	2	575	.032
	Intrinsic beliefs	6.592	2	571	.001
	Prestige beliefs	1.512	2	580	.221
	Social beliefs	3.118	2	580	.045

Table 4 ANOVA Test-Dimensions of WV and Beliefs

Time			Sum of Squares	df	Mean Square	F	Sig.
Beginning	Extrinsic WV	Between Groups	.140	2	.070	.389	.678
		Within Groups	103.901	576	.180		
		Total	104.041	578			
	Intrinsic WV	Between Groups	5.042	2	2.521	9.440	.000
		Within Groups	154.104	577	.267		
		Total	159.146	579			
	Prestige WV	Between Groups	2.339	2	1.169	3.220	.041
		Within Groups	209.924	578	.363		
		Total	212.263	580			
	Social WV	Between Groups	5.011	2	2.505	3.948	.020
		Within Groups	366.187	577	.635		
		Total	371.198	579			
	Extrinsic Beliefs	Between Groups	38.348	2	19.174	51.829	.000
		Within Groups	212.718	575	.370		
		Total	251.066	577			
	Intrinsic Beliefs	Between Groups	116.936	2	58.468	151.628	.000
		Within Groups	220.177	571	.386		
		Total	337.113	573			
	Prestige Beliefs	Between Groups	45.934	2	22.967	53.926	.000
		Within Groups	247.024	580	.426		
		Total	292.958	582			
	Social Beliefs	Between Groups	24.046	2	12.023	43.043	.000
		Within Groups	162.009	580	.279		
		Total	186.055	582			

Table 5 Multiple Comparisons among groups of intention-Dimensions of WV and Beliefs (Tukey HSD)

Dependent Variable	3groups	3groups	Mean Difference	Std. Error	Sig.	99% Confidence Interval	
						Lower Bound	Upper Bound
Extrinsic WV	1.00	2.00	-.03342	.03907	.669	-.1477	.0809
		3.00	-.02858	.05152	.844	-.1793	.1221
	2.00	1.00	.03342	.03907	.669	-.0809	.1477
		3.00	.00483	.04979	.995	-.1408	.1505
	3.00	1.00	.02858	.05152	.844	-.1221	.1793
		2.00	-.00483	.04979	.995	-.1505	.1408
Intrinsic WV	1.00	2.00	-.05305	.04750	.504	-.1920	.0859
		3.00	-.26816(*)	.06269	.000	-.4515	-.0848
	2.00	1.00	.05305	.04750	.504	-.0859	.1920
		3.00	-.21511(*)	.06056	.001	-.3922	-.0380
	3.00	1.00	.26816(*)	.06269	.000	.0848	.4515
		2.00	.21511(*)	.06056	.001	.0380	.3922
Prestige WV	1.00	2.00	.13958	.05535	.032	-.0223	.3015
		3.00	.05937	.07311	.696	-.1545	.2732
	2.00	1.00	-.13958	.05535	.032	-.3015	.0223
		3.00	-.08021	.07058	.492	-.2867	.1262
	3.00	1.00	-.05937	.07311	.696	-.2732	.1545
		2.00	.08021	.07058	.492	-.1262	.2867
Social WV	1.00	2.00	-.13399	.07319	.160	-.3481	.0801
		3.00	-.26120	.09657	.019	-.5437	.0213
	2.00	1.00	.13399	.07319	.160	-.0801	.3481
		3.00	-.12721	.09340	.362	-.4004	.1460
	3.00	1.00	.26120	.09657	.019	-.0213	.5437
		2.00	.12721	.09340	.362	-.1460	.4004
Extrinsic Beliefs	1.00	2.00	-.37093(*)	.05598	.000	-.5347	-.2072
		3.00	-.72660(*)	.07410	.000	-.9433	-.5099
	2.00	1.00	.37093(*)	.05598	.000	.2072	.5347
		3.00	-.35567(*)	.07153	.000	-.5649	-.1464
	3.00	1.00	.72660(*)	.07410	.000	.5099	.9433
		2.00	.35567(*)	.07153	.000	.1464	.5649
Intrinsic Beliefs	1.00	2.00	-.74737(*)	.05727	.000	-.9149	-.5799
		3.00	-1.20870(*)	.07585	.000	-1.4306	-.9868
	2.00	1.00	.74737(*)	.05727	.000	.5799	.9149
		3.00	-.46133(*)	.07345	.000	-.6762	-.2465
	3.00	1.00	1.20870(*)	.07585	.000	.9868	1.4306
		2.00	.46133(*)	.07345	.000	.2465	.6762
Prestige Beliefs	1.00	2.00	-.41213(*)	.05981	.000	-.5871	-.2372
		3.00	-.78746(*)	.07911	.000	-1.0189	-.5561
	2.00	1.00	.41213(*)	.05981	.000	.2372	.5871
		3.00	-.37532(*)	.07640	.000	-.5988	-.1519
	3.00	1.00	.78746(*)	.07911	.000	.5561	1.0189
		2.00	.37532(*)	.07640	.000	.1519	.5988
Social Beliefs	1.00	2.00	-.30488(*)	.04843	.000	-.4466	-.1632
		3.00	-.56623(*)	.06407	.000	-.7536	-.3788
	2.00	1.00	.30488(*)	.04843	.000	.1632	.4466
		3.00	-.26134(*)	.06187	.000	-.4423	-.0804
	3.00	1.00	.56623(*)	.06407	.000	.3788	.7536
		2.00	.26134(*)	.06187	.000	.0804	.4423

* The mean difference is significant at the .01 level.

Table 6 Descriptive statistics-Dimensions of Attitude, Perception and Attitude

Time	Variable	Group	N	Mean	Std. Deviation
Beginning	Extrinsic Dimension	1.00	209	12.1240	3.43606
		2.00	264	13.8488	3.19290
		3.00	99	15.2912	3.56208
		Total	572	13.4682	3.53251
	Intrinsic Dimension	1.00	210	12.7405	3.59927
		2.00	261	16.3170	3.54972
		3.00	98	19.2219	3.08526
		Total	569	15.4974	4.20386
	Prestige Dimension	1.00	211	12.5592	3.78607
		2.00	268	14.0553	3.76078
		3.00	100	15.9338	4.09065
		Total	579	13.8345	3.99827
	Social Dimension	1.00	212	11.7508	4.31099
		2.00	266	13.6692	4.15996
		3.00	100	15.5000	4.53549
		Total	578	13.2823	4.47845
	Attitude	1.00	203	12.3353	2.92711
		2.00	251	14.4906	2.77647
		3.00	97	16.5259	3.01993
		Total	551	14.0549	3.23998
	Perception	1.00	207	2.9916	.54187
		2.00	261	3.4733	.47603
		3.00	97	3.8674	.47212
		Total	565	3.3645	.59131
	Total	Total	441	3.3814	.58077

Table 7 Descriptive statistics-Sub Dimensions of Attitude

Time	Variable	Group	N	Mean	Std. Deviation
Beginning	SD security	1.00	212	13.4387	4.61566
		2.00	268	14.8713	4.16752
		3.00	99	17.3434	4.40469
		Total	579	14.7694	4.56934
	SD economic	1.00	214	14.1145	4.71385
		2.00	268	16.0877	4.11455
		3.00	100	18.5500	4.29029
		Total	582	15.7852	4.63127
	SD sec/economic	1.00	212	13.7783	3.95192
		2.00	266	15.4765	3.52373
		3.00	99	17.9798	3.50249
		Total	577	15.2821	3.95239
	SD w. condition	1.00	213	11.1925	4.64347
		2.00	270	12.6370	4.43580
		3.00	100	14.0250	5.58650
		Total	583	12.3473	4.82368
	SD autonomy	1.00	212	11.4906	4.80323
		2.00	268	13.4216	5.05470
		3.00	100	13.8600	5.81798
		Total	580	12.7914	5.19403
	SD interesting	1.00	214	10.5607	5.31572
		2.00	268	16.1604	5.14112
		3.00	100	20.5100	3.95427
		Total	582	14.8488	6.18486
	SD creativity	1.00	212	13.4623	5.12206
		2.00	267	15.8670	4.98024
		3.00	99	17.1667	4.64121
		Total	578	15.2076	5.16388
	SD nature	1.00	212	11.9493	4.06152
		2.00	265	15.9811	4.14888
		3.00	99	18.8510	3.56140
		Total	576	14.9905	4.74831
	SD buss/kills	1.00	213	13.0845	4.97706
		2.00	268	16.8787	4.70170
		3.00	100	20.6600	3.95165
		Total	581	16.1386	5.39438
	SD pers/growth	1.00	213	13.8568	5.23566
		2.00	268	16.3004	4.79937
		3.00	99	18.3535	4.44195
		Total	580	15.7534	5.15908
	SD dev/bus/skills	1.00	212	13.4717	4.32339
		2.00	266	16.6297	3.99641
		3.00	99	19.5505	3.43266
		Total	577	15.9705	4.57181
	SD advancement	1.00	214	14.0950	4.32445
		2.00	269	15.0694	4.30022
		3.00	100	16.9867	4.08136
		Total	583	15.0406	4.37866
	SD dec/making	1.00	214	13.2850	5.00357
		2.00	270	14.3726	5.01565
		3.00	100	15.8750	4.86555
		Total	584	14.2313	5.05725
	SD advbussposit	1.00	214	13.6900	3.93640
		2.00	269	14.7421	4.08418
		3.00	100	16.4308	3.88658
		Total	583	14.6456	4.09990
	SD status	1.00	211	11.4550	4.87564
		2.00	269	13.3916	4.65736
		3.00	100	15.4367	5.33811
		Total	580	13.0397	5.04968
	SD w.w. others	1.00	212	13.4009	5.15368
		2.00	266	14.8759	4.89102

		3.00	100	16.2000	5.08712
		Total	578	14.5640	5.11326
	SD responsibility	1.00	214	10.0670	5.30570
		2.00	270	12.4000	5.12613
		3.00	100	14.8000	5.24827
		Total	584	11.9561	5.46582

Table 8 Descriptive statistics-Individual items of Work Values

Time	Variable	Group	N	Mean	Std. Deviation
Beginning	Vocational secure and safe future	1.00	214	4.44	.766
		2.00	269	4.57	.652
		3.00	100	4.66	.590
		Total	583	4.54	.690
	Economic rewards	1.00	214	4.44	.667
		2.00	270	4.46	.625
		3.00	100	4.52	.541
		Total	584	4.46	.627
	Work conditions	1.00	214	4.40	.736
		2.00	270	4.43	.635
		3.00	100	4.43	.728
		Total	584	4.42	.689
	Advancement and promotion	1.00	214	4.64	.593
		2.00	269	4.49	.644
		3.00	100	4.52	.627
		Total	583	4.55	.626
	Decision making	1.00	214	4.18	.872
		2.00	270	3.96	.858
		3.00	100	4.11	.803
		Total	584	4.07	.859
	Social Status	1.00	212	4.13	.969
		2.00	270	4.07	.872
		3.00	100	4.14	.888
		Total	582	4.11	.910
	Interesting job	1.00	214	4.68	.614
		2.00	270	4.61	.662
		3.00	100	4.74	.485
		Total	584	4.66	.618
	Creative job	1.00	213	4.10	.944
		2.00	270	4.12	.783
		3.00	100	4.28	.740
		Total	583	4.14	.840
	Autonomy	1.00	212	4.12	.791
		2.00	268	4.07	.814
		3.00	100	3.91	1.016
		Total	580	4.06	.846
	Relevant to my studies	1.00	213	4.21	.867
		2.00	269	4.33	.763
		3.00	100	4.70	.541
		Total	582	4.35	.788
	Personal growth	1.00	214	4.14	.839
		2.00	269	4.26	.777
		3.00	100	4.48	.643
		Total	583	4.25	.787
	Work with others	1.00	213	3.85	.955
		2.00	267	3.90	.953
		3.00	100	3.93	.856
		Total	580	3.89	.936
	Worthwhile to society	1.00	214	3.42	1.138
		2.00	270	3.63	.992
		3.00	100	3.86	.888
		Total	584	3.59	1.042

Table 9 Descriptive statistics- Individual items of beliefs concerning the attributes and outcomes of AP

Time	Variable	Group	N	Mean	Std. Deviation
Beginning	Find easily a job	1.00	214	3.08	1.045
		2.00	270	3.28	1.010
		3.00	100	3.72	.911
		Total	584	3.28	1.029
	A secure professional future	1.00	212	2.97	1.002
		2.00	271	3.26	.898
		3.00	99	3.70	.874
		Total	582	3.23	.965
	A high standard of living	1.00	214	3.14	.981
		2.00	271	3.54	.820
		3.00	100	4.05	.757
		Total	585	3.48	.927
	A good salary	1.00	214	3.21	.964
		2.00	269	3.67	.879
		3.00	100	4.12	.879
		Total	583	3.58	.965
	Convenient hours of work	1.00	214	2.79	1.167
		2.00	271	3.12	1.061
		3.00	100	3.28	1.256
		Total	585	3.02	1.149
	Get ahead quickly in my career	1.00	214	2.71	.964
		2.00	271	3.09	.834
		3.00	100	3.49	.927
		Total	585	3.02	.939
	The chance to have my own business someday	1.00	214	3.30	1.181
		2.00	271	3.49	1.151
		3.00	100	3.98	.985
		Total	585	3.50	1.157
	Promote to senior level positions in the company	1.00	214	3.07	1.148
		2.00	271	3.44	1.041
		3.00	100	3.80	.888
		Total	585	3.37	1.087
	The chance to participate in decision making	1.00	214	3.14	1.068
		2.00	271	3.55	.929
		3.00	100	3.79	.844
		Total	585	3.44	.998
	Able to work as a consultant-business advisor	1.00	214	3.23	1.113
		2.00	271	3.61	.948
		3.00	100	3.86	.853
		Total	585	3.51	1.022
	High social status	1.00	213	2.84	.987
		2.00	270	3.30	.854
		3.00	100	3.68	.931
		Total	583	3.20	.965
	Well respected occupation	1.00	214	3.04	.999
		2.00	271	3.58	.874
		3.00	100	3.98	.864
		Total	585	3.45	.980
	On a par with lawyers, doctors and engineers	1.00	214	2.29	1.129
		2.00	271	2.86	1.017
		3.00	100	3.33	1.083
		Total	585	2.73	1.133
	Interesting job	1.00	214	2.34	1.163
		2.00	270	3.50	.982
		3.00	100	4.25	.702
		Total	584	3.20	1.234
	I like the kind of accounting job	1.00	214	2.20	1.162
		2.00	270	3.48	1.062
		3.00	100	4.40	.791
		Total	584	3.17	1.331

	Creative and dynamic	1.00	214	3.32	1.049
		2.00	268	3.83	.919
		3.00	99	3.98	.869
		Total	581	3.67	.997
	New ideas	1.00	213	3.29	1.221
		2.00	270	3.82	1.024
		3.00	100	3.98	.974
		Total	583	3.65	1.126
	Autonomy and independence	1.00	214	2.93	1.066
		2.00	271	3.45	.968
		3.00	100	3.61	.952
		Total	585	3.29	1.039
	Work on your own pace	1.00	214	2.63	1.121
		2.00	271	3.06	1.086
		3.00	100	3.28	.996
		Total	585	2.94	1.110
	Working with pressure	1.00	213	2.28	1.146
		2.00	271	2.59	1.150
		3.00	100	3.01	1.267
		Total	584	2.55	1.195
	Use business knowledge and skills	1.00	214	3.42	1.118
		2.00	271	3.93	.944
		3.00	100	4.38	.801
		Total	585	3.82	1.046
	Relevant with management studies	1.00	214	2.75	1.130
		2.00	270	3.80	.847
		3.00	100	4.39	.695
		Total	584	3.52	1.123
	Give the chance for seminars and courses/personal growth	1.00	213	3.57	1.091
		2.00	271	4.03	.856
		3.00	100	4.27	.750
		Total	584	3.90	.969
	The chance to learn something new each day	1.00	214	3.07	1.196
		2.00	270	3.53	.959
		3.00	99	3.89	.946
		Total	583	3.42	1.089
	Interact and cooperate with many people	1.00	214	3.46	1.010
		2.00	270	3.75	.898
		3.00	100	4.15	.833
		Total	584	3.71	.959
	Meet and deal with different people	1.00	213	3.48	1.049
		2.00	271	3.88	.907
		3.00	100	4.08	.849
		Total	584	3.77	.978
	Work with people than I work alone	1.00	214	3.35	.970
		2.00	271	3.71	.889
		3.00	100	3.99	.904
		Total	585	3.63	.950
	Helps the welfare of society	1.00	214	2.89	1.071
		2.00	271	3.39	.936
		3.00	100	3.78	.860
		Total	585	3.28	1.026
	Great social contribution	1.00	214	2.73	1.087
		2.00	271	3.14	.947
		3.00	100	3.54	.881
		Total	585	3.06	1.029
	High social responsibility	1.00	214	2.99	1.231
		2.00	271	3.47	1.074
		3.00	100	3.91	1.055
		Total	585	3.37	1.176

Appendix 7.2d Differences concerning the PC among groups of intention

Table 1 Descriptive statistics-Constructs of PC

Time	Variable	Group	N	Mean	Std. Deviation
Beginning	Self efficacy beliefs	1.00	214	2.5280	.91472
		2.00	270	3.3642	.61332
		3.00	99	3.9192	.68029
		Total	583	3.1515	.90674
	Importance of SE	1.00	214	4.4190	.58447
		2.00	271	4.4305	.50347
		3.00	100	4.5900	.45407
		Total	585	4.4536	.52973

Table 2 Test of Homogeneity of Variances for the constructs of PC

Time		Levene Statistic	df1	df2	Sig.
Beginning of the FAC	Self efficacy beliefs	29.592	2	580	.042
	Importance of SE	2.400	2	582	.092

Table 3 ANOVA-Test-Constructs of PC

Time			Sum of Squares	df	Mean Square	F	Sig.
Beginning of the FAC	Self efficacy beliefs	Between Groups	153.744	2	76.872	137.287	.000
		Within Groups	324.761	580	.560		
		Total	478.505	582			
	Importance of SE	Between Groups	.954	2	1.131	1.788	.168
		Within Groups	127.590	582	.278		
		Total	128.544	584			

Table 4 Multiple Comparisons among groups concerning the constructs of PC (Tukey HSD)

Dependent Variable	3group intention	3group intention	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Self efficacy beliefs	1.00	2.00	-.83616(*)	.06849	.000	-.9971	-.6752
		3.00	-1.39115(*)	.09095	.000	-1.6049	-1.1774
	2.00	1.00	.83616(*)	.06849	.000	.6752	.9971
		3.00	-.55499(*)	.08792	.000	-.7616	-.3484
	3.00	1.00	1.39115(*)	.09095	.000	1.1774	1.6049
		2.00	.55499(*)	.08792	.000	.3484	.7616
Importance of SE	1.00	2.00	-.01150	.04819	.969	-.1247	.1017
		3.00	-.1710	.04383	.021	-.3210	-.0210
	2.00	1.00	.01150	.04819	.969	-.1017	.1247
		3.00	-.15950	.04166	.027	-.3044	-.0146
	3.00	1.00	.17100	.04383	.021	.0210	.3210
		2.00	.15950	.05166	.027	.0146	.3044

The mean difference is significant at the .05 level.

Table 5 Descriptive statistics-Dimensions of PC

Time	Variable	Group	N	Mean	Std. Deviation
Beginning	PC skills	1.00	214	10.4907	5.28950
		2.00	271	14.5166	4.35876
		3.00	99	18.0505	4.51386
		Total	584	13.6404	5.45408
	PC degrees	1.00	214	11.1963	5.14017
		2.00	270	14.9704	3.86470
		3.00	99	18.4747	4.73447
		Total	583	14.1801	5.20079
	PC exams	1.00	214	12.0187	5.34092
		2.00	270	15.2481	4.19611
		3.00	99	17.4848	4.80723
		Total	583	14.4425	5.14829
	Perceived Control	1.00	214	11.2352	4.54149
		2.00	270	14.9247	3.32323
		3.00	99	18.0034	3.79327
		Total	583	14.0932	4.58265

Table 6 Descriptive statistics-Individual items of PC

Time	Variable	Group	N	Mean	Std. Deviation
Beginning	Importance of skills abilities	1.00	214	4.40	.802
		2.00	271	4.54	.683
		3.00	100	4.53	.643
		Total	585	4.43	.723
	Importance of degrees	1.00	214	4.39	.734
		2.00	271	4.41	.654
		3.00	100	4.21	.569
		Total	585	4.43	.675
	Importance of exams	1.00	214	4.48	.662
		2.00	271	4.51	.631
		3.00	100	4.64	.612
		Total	585	4.47	.641
	Self efficacy accounting skills-abilities	1.00	214	2.54	1.028
		2.00	270	3.40	.734
		3.00	99	4.01	.851
		Total	583	3.19	1.024
	Self efficacy accounting degrees	1.00	214	2.36	1.052
		2.00	271	3.28	.789
		3.00	99	3.98	.782
		Total	584	3.06	1.067
	Self efficacy accounting exams	1.00	214	2.68	1.097
		2.00	270	3.41	.774
		3.00	99	3.77	.879
		Total	583	3.20	1.010

Appendix 7.3 Differences concerning the main constructs of ACC among groups of intention-End of the FAC

Table 1: Multiple Comparisons (Tukey HSD Test) - End of the FAC

Dependent Variable	3groups	3groups	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
SN	1.00	2.00	-3.95615(*)	.41149	.000	-4.9236	-2.9887
		3.00	-6.37167(*)	.51716	.000	-7.5875	-5.1558
	2.00	1.00	3.95615(*)	.41149	.000	2.9887	4.9236
		3.00	-2.41552(*)	.49334	.000	-3.5754	-1.2556
	3.00	1.00	6.37167(*)	.51716	.000	5.1558	7.5875
		2.00	2.41552(*)	.49334	.000	1.2556	3.5754
Extrinsic Dim	1.00	2.00	-1.74263(*)	.33175	.000	-2.5226	-.9626
		3.00	-2.90769(*)	.41749	.000	-3.8893	-1.9261
	2.00	1.00	1.74263(*)	.33175	.000	.9626	2.5226
		3.00	-1.16506(*)	.39946	.010	-2.1042	-.2259
	3.00	1.00	2.90769(*)	.41749	.000	1.9261	3.8893
		2.00	1.16506(*)	.39946	.010	.2259	2.1042
Intrinsic Dim	1.00	2.00	-3.42712(*)	.39148	.000	-4.3476	-2.5066
		3.00	-6.18651(*)	.48811	.000	-7.3342	-5.0388
	2.00	1.00	3.42712(*)	.39148	.000	2.5066	4.3476
		3.00	-2.75939(*)	.46642	.000	-3.8561	-1.6627
	3.00	1.00	6.18651(*)	.48811	.000	5.0388	7.3342
		2.00	2.75939(*)	.46642	.000	1.6627	3.8561
Prestige Dim	1.00	2.00	-2.29929(*)	.39674	.000	-3.2322	-1.3664
		3.00	-4.09572(*)	.49951	.000	-5.2702	-2.9212
	2.00	1.00	2.29929(*)	.39674	.000	1.3664	3.2322
		3.00	-1.79643(*)	.47520	.001	-2.9138	-.6791
	3.00	1.00	4.09572(*)	.49951	.000	2.9212	5.2702
		2.00	1.79643(*)	.47520	.001	.6791	2.9138
Social Dim	1.00	2.00	-2.18331(*)	.44536	.000	-3.2304	-1.1362
		3.00	-3.42352(*)	.55928	.000	-4.7385	-2.1086
	2.00	1.00	2.18331(*)	.44536	.000	1.1362	3.2304
		3.00	-1.24021	.53363	.053	-2.4948	.0144
	3.00	1.00	3.42352(*)	.55928	.000	2.1086	4.7385
		2.00	1.24021	.53363	.053	-.0144	2.4948
Attitude	1.00	2.00	-2.45169(*)	.31188	.000	-3.1852	-1.7182
		3.00	-4.18067(*)	.38943	.000	-5.0966	-3.2648
	2.00	1.00	2.45169(*)	.31188	.000	1.7182	3.1852
		3.00	-1.72899(*)	.37138	.000	-2.6024	-.8555
	3.00	1.00	4.18067(*)	.38943	.000	3.2648	5.0966
		2.00	1.72899(*)	.37138	.000	.8555	2.6024
PC	1.00	2.00	-3.92892(*)	.39628	.000	-4.8606	-2.9972
		3.00	-8.25728(*)	.49756	.000	-9.4271	-7.0875
	2.00	1.00	3.92892(*)	.39628	.000	2.9972	4.8606
		3.00	-4.32837(*)	.47497	.000	-5.4451	-3.2117
	3.00	1.00	8.25728(*)	.49756	.000	7.0875	9.4271
		2.00	4.32837(*)	.47497	.000	3.2117	5.4451

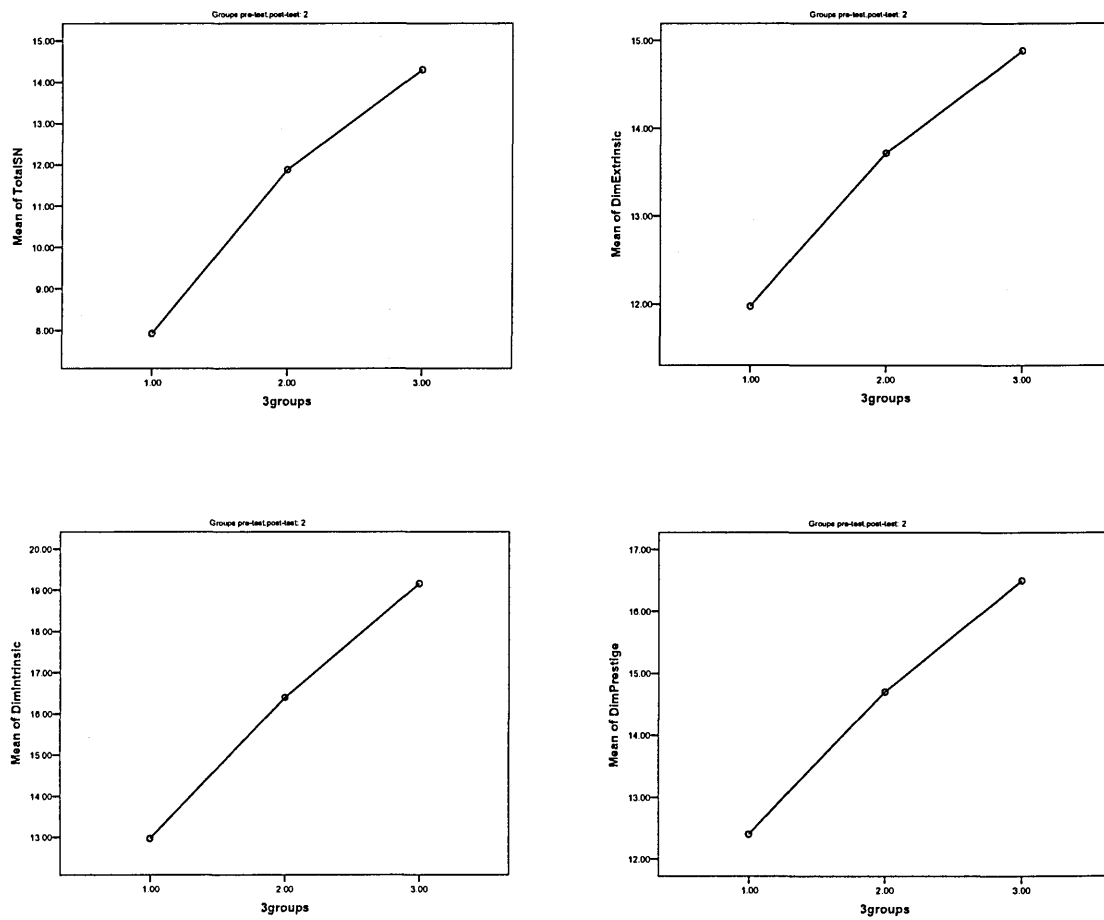
The mean difference is significant at the .05 level.

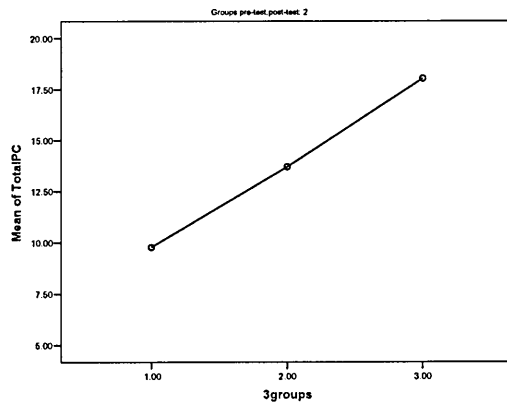
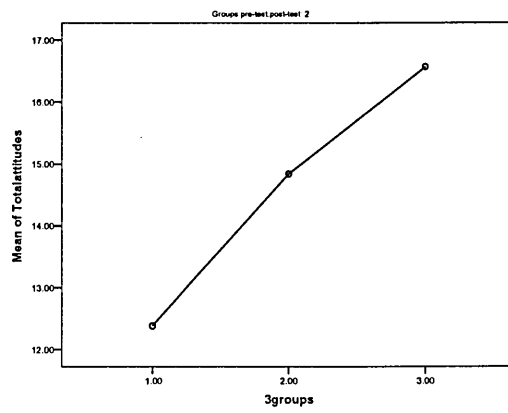
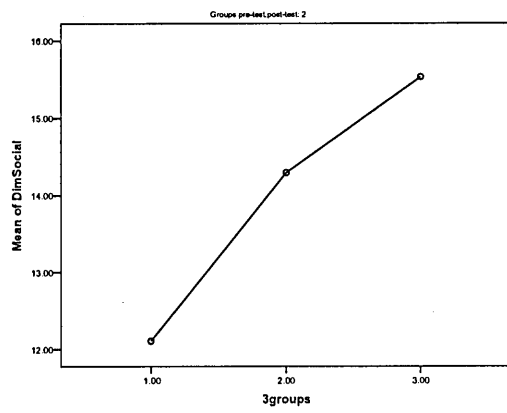
Table 2: Multiple Comparisons (Sheffe Test)-End of the FAC

Dependent Variables	3groups	3groups	Mean Difference	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
SN	1.00	2.00	-3.95615(*)	.41149	.000	-4.9665	-2.9458
		3.00	-6.37167(*)	.51716	.000	-7.6415	-5.1018
	2.00	1.00	3.95615(*)	.41149	.000	2.9458	4.9665
		3.00	-2.41552(*)	.49334	.000	-3.6269	-1.2041
	3.00	1.00	6.37167(*)	.51716	.000	5.1018	7.6415
		2.00	2.41552(*)	.49334	.000	1.2041	3.6269
Extrinsic Dim	1.00	2.00	-1.74263(*)	.33175	.000	-2.5573	-.9280
		3.00	-2.90769(*)	.41749	.000	-3.9329	-1.8825
	2.00	1.00	1.74263(*)	.33175	.000	.9280	2.5573
		3.00	-1.16506(*)	.39946	.015	-2.1459	-.1842
	3.00	1.00	2.90769(*)	.41749	.000	1.8825	3.9329
		2.00	1.16506(*)	.39946	.015	.1842	2.1459
Intrinsic Dim	1.00	2.00	-3.42712(*)	.39148	.000	-4.3885	-2.4657
		3.00	-6.18651(*)	.48811	.000	-7.3852	-4.9878
	2.00	1.00	3.42712(*)	.39148	.000	2.4657	4.3885
		3.00	-2.75939(*)	.46642	.000	-3.9048	-1.6140
	3.00	1.00	6.18651(*)	.48811	.000	4.9878	7.3852
		2.00	2.75939(*)	.46642	.000	1.6140	3.9048
Prestige Dim	1.00	2.00	-2.29929(*)	.39674	.000	-3.2736	-1.3250
		3.00	-4.09572(*)	.49951	.000	-5.3224	-2.8690
	2.00	1.00	2.29929(*)	.39674	.000	1.3250	3.2736
		3.00	-1.79643(*)	.47520	.001	-2.9634	-.6295
	3.00	1.00	4.09572(*)	.49951	.000	2.8690	5.3224
		2.00	1.79643(*)	.47520	.001	.6295	2.9634
Social Dim	1.00	2.00	-2.18331(*)	.44536	.000	-3.2769	-1.0897
		3.00	-3.42352(*)	.55928	.000	-4.7969	-2.0502
	2.00	1.00	2.18331(*)	.44536	.000	1.0897	3.2769
		3.00	-1.24021	.53363	.068	-2.5505	.0701
	3.00	1.00	3.42352(*)	.55928	.000	2.0502	4.7969
		2.00	1.24021	.53363	.068	-.0701	2.5505
Attitude	1.00	2.00	-2.45169(*)	.31188	.000	-3.2177	-1.6856
		3.00	-4.18067(*)	.38943	.000	-5.1372	-3.2241
	2.00	1.00	2.45169(*)	.31188	.000	1.6856	3.2177
		3.00	-1.72899(*)	.37138	.000	-2.6412	-.8168
	3.00	1.00	4.18067(*)	.38943	.000	3.2241	5.1372
		2.00	1.72899(*)	.37138	.000	.8168	2.6412
PC	1.00	2.00	-3.92892(*)	.39628	.000	-4.9020	-2.9559
		3.00	-8.25728(*)	.49756	.000	-9.4790	-7.0355
	2.00	1.00	3.92892(*)	.39628	.000	2.9559	4.9020
		3.00	-4.32837(*)	.47497	.000	-5.4946	-3.1621
	3.00	1.00	8.25728(*)	.49756	.000	7.0355	9.4790
		2.00	4.32837(*)	.47497	.000	3.1621	5.4946

* The mean difference is significant at the .05 level.

Fig. 1-7 Mean Plots-Differences among groups of Intention-End of the FAC





Appendix 8 The effect of a traditional and an innovative FAC on the constructs of an ACC.

Table 1 Descriptive statistics-Constructs of SN

Time	Variable	Group	N	Mean	Std. Deviation
Beginning	Normative beliefs	Innovative	66	3.1030	.73839
		Traditional	149	2.9312	.88668
End	M2 Normative beliefs	Innovative	66	3.4886	.84856
		Traditional	148	3.0777	.91000
Beginning	Motivation to comply	Innovative	66	3.1667	.94801
		Traditional	149	3.2013	.73790
End	M2 Motivation to comply	Innovative	66	3.3712	.70608
		Traditional	148	3.3699	.76569

Table 2 Descriptive statistics-Individual items of SN

Time	Group	Variable	N	Mean	Std. Deviation
Beginning	Innovative	My family would like me to become an accountant	66	3.41	1.022
		My peers and friend believe the AP is a very good career choice	66	3.32	.963
		The Greek society think that the AP is between the best career choices	66	3.55	.948
		My educators have encourage me to follow the AP	66	2.94	1.276
		Parents/Family	66	3.82	1.201
		Peers/friends	66	2.74	1.057
		Social environment	66	2.89	1.165
		Teachers/Educators	66	3.21	1.387
End		My family would like me to become an accountant	66	3.55	1.055
		My peers and friend believe the AP is a very good career choice	66	3.41	1.176
		The Greek society think that the AP is between the best career choices	66	3.59	.976
		My educators have encourage me to pursue the AP	66	3.41	1.037
		Parents/Family	66	3.89	1.111
		Peers/friends	66	2.98	1.074
		Social environment	66	3.09	.972
		Teachers/Educators	66	3.52	1.099
		Valid N (listwise)	66		
Beginning	Traditional	My family would like me to become an accountant	149	3.00	1.162
		My peers and friend believe the AP is a very good career choice	149	2.99	.997
		The Greek society think that the AP is between the best career choices	149	3.03	1.062
		My educators have encourage me to pursue the AP	149	2.70	1.143
		Parents/Family	149	3.82	1.007
		Peers/friends	149	2.88	.944
		Social environment	149	2.98	1.036
		Teachers/Educators	149	3.13	1.193
		My family would like me to become an accountant	149	3.26	1.123
		My peers and friend believe the AP is a very good career choice	149	3.07	1.007
		The Greek society think that the AP is between the best career choices	148	3.15	1.115
		My educators have encourage me to follow the AP	149	2.85	1.149
End		Parents/Family	149	3.82	1.139
		Peers/friends	148	3.01	.983
		Social environment	149	3.32	1.001
		Teachers/Educators	149	3.32	1.203
		Valid N (listwise)	147		

Table 3 Descriptive statistics- Types of Work Values

Time	Variable	Group	N	Mean	Std. Deviation
Beginning	Extrinsic WV	Innovative	65	4.3385	.42946
		Traditional	148	4.3666	.39707
	Intrinsic WV	Innovative	66	4.4318	.41728
		Traditional	147	4.3946	.44943
	Prestige WV	Innovative	66	4.2677	.47939
		Traditional	148	4.2104	.65559
End	Social WV	Innovative	66	3.8712	.61588
		Traditional	148	3.7703	.75001
	M2ExtrinsicWV	Innovative	66	4.4659	.31282
		Traditional	147	4.3112	.45948
	M2IntrinsicWV	Innovative	66	4.4962	.41253
		Traditional	149	4.3725	.49883
	M2PrestigeWV	Innovative	66	4.3586	.55872
		Traditional	147	4.1791	.66355
	M2SocialWV	Innovative	66	3.9773	.66467
		Traditional	149	3.8826	.68869

Table 4 Descriptive statistics-Types of Beliefs concerning the attributes and outcomes associated with the AP

Time	Variable	Group	N	Mean	Std. Deviation
Beginning	Extrinsic beliefs	Innovative	65	3.2500	.62344
		Traditional	149	3.1317	.66076
	Intrinsic beliefs	Innovative	65	3.7808	.72316
		Traditional	147	3.6250	.76763
	Prestige beliefs	Innovative	66	3.3883	.56122
		Traditional	148	3.2897	.73295
End	Social beliefs	Innovative	66	3.6717	.66793
		Traditional	147	3.5204	.78025
	M2Extrinsicbel	Innovative	66	3.2822	.49142
		Traditional	146	3.1396	.70749
	M2Intrinsicbel	Innovative	66	3.8371	.55771
		Traditional	142	3.4745	.75538
	M2Prestigebelief	Innovative	65	3.5288	.53709
		Traditional	143	3.3762	.74712
	M2Socialbelief	Innovative	65	3.6308	.63839
		Traditional	147	3.4240	.78009
	Total Perception	Innovative	64	3.5036	.52474
		Traditional	144	3.3907	.61279
	M2TotalPerception	Innovative	64	3.5729	.41331
		Traditional	133	3.3341	.64475

Table 5 Descriptive statistics- Individual items of Work values

Time	Group	Variable	N	Mean	Std. Deviation
Beginning	Innovative	Vocational secure and safe future	65	4.52	.687
		Salary and Income from the job	66	4.41	.607
		Work conditions and environment	66	4.48	.728
		Advancement and promotion	66	4.55	.560
		Business decision making	66	4.15	.638
		Status	66	4.11	.747
		Interesting job	66	4.68	.469
		Creative job	66	4.12	.645
		Autonomy	66	3.94	.990
		Relevant with my studies	66	4.52	.614
		Personal growth, new skills and competencies	66	4.41	.679
		Work with others	66	4.08	.791
		Social responsibility	66	3.67	.847
End	Innovative	Vocational secure and safe future	66	4.71	.456
		Salary and Income from the job	66	4.50	.639
		Work conditions and environment	66	4.70	.495
		Advancement and promotion	66	4.64	.572
		Business decision making	66	4.32	.747
		Social Status	66	4.12	.755
		Interesting job	66	4.71	.519
		Creative job	66	4.38	.718
		Autonomy	66	3.95	.773
		Relevant with my studies	66	4.52	.614
		Personal growth, new skills and competencies	66	4.38	.651
		Work with others	66	4.27	.833
		Social responsibility	66	3.68	.826
Beginning	Traditional	Vocational secure and safe future	148	4.55	.663
		Salary and Income from the job	148	4.41	.582
		Work conditions and environment	148	4.47	.674
		Advancement and promotion	148	4.49	.665
		Business decision making	148	4.07	.891
		Social Status	148	4.07	1.008
		Interesting job	148	4.70	.567
		Creative job	148	4.20	.788
		Autonomy	148	4.04	.832
		Relevant with my studies	147	4.39	.764
		Personal growth, new skills and competencies	148	4.28	.765
		Work with others	148	3.84	.863
		Social responsibility	148	3.70	.967
End	Traditional	Vocational secure and safe future	149	4.45	.739
		Salary and Income from the job	149	4.40	.614
		Work conditions and environment	149	4.40	.656
		Advancement and promotion	148	4.42	.759
		Business decision making	148	4.03	.872
		Social Status	149	4.07	.923
		Interesting job	149	4.64	.660
		Creative job	149	4.30	.721
		Autonomy	147	3.99	.789
		Relevant with my studies	149	4.30	.850
		Personal growth, new skills and competencies	149	4.26	.809
		Work with others	149	4.07	.786
		Social responsibility	149	3.70	.949

Table 6 Descriptive statistics-Individual items of Beliefs

Time	Group	Variable	N	Mean	Std. Deviation
Beginning	Innovative	Find easily a job	66	3.68	.844
		A secure and stable professional future	65	3.42	.900
		A high income and economic standard of living	66	3.71	.907
		A high long term salary	66	3.71	.941
		Convenient hours of work	66	3.02	1.088
		Get ahead quickly in my career	66	3.20	.789
		The chance to have my own business someday	66	3.58	1.096
		Promote to senior level positions in the company	66	3.48	.881
		The chance to participate in decision making	66	3.47	.769
		To become consultant-business advisor	66	3.44	.825
		High social status	66	3.44	.806
		Well respected in the society and in the business	66	3.61	.782
		On a par with law, medicine and engineer	66	2.89	1.097
		Interesting job	66	3.53	1.140
		I like the kind of accounting job	65	3.37	1.341
		Need to combine diverse knowledge and skills	66	3.94	.990
		Need creativity and new ideas	66	3.88	1.060
		Autonomy and independence	66	3.30	.877
		Work on your own pace	66	2.80	1.011
		Work relax-without pressure	66	2.33	1.114
		Use the business knowledge and skills	66	4.00	.877
		Relevant with management studies	66	3.71	1.092
		Give the chance for seminars and courses/personal growth	66	4.20	.881
		The chance to learn something new each day	66	3.65	1.000
		Interact and cooperate with a lot of people	66	3.77	.908
		Meet and deal with variety of people	66	3.92	.865
		Work with other employees	66	3.85	.864
		Helps the well being of society	66	3.50	.899
		High social contribution	66	3.26	.917
		High social responsibility	66	3.73	.969
End	Innovative	Find easily a job	66	3.65	.850
		A secure and stable professional future	66	3.70	.822
		A high income and economic standard of living	66	3.89	.825
		A high long term salary	66	4.08	.847
		Convenient hours of work	66	2.68	.914
		Get ahead quickly in my career	66	3.20	.706
		The chance to have my own business someday	66	3.77	.925
		Promote to senior level positions in the company	66	3.53	.881
		The chance to participate in decision making	66	3.61	.820
		To become consultant-business advisor	66	3.77	.873
		High social status	66	3.56	.747
		Well respected in the society and in the business	66	3.73	.735
		On a par with law, medicine and engineer	65	3.06	.998
		Interesting job	66	3.41	1.037
		I like the kind of accounting job	66	3.45	1.112
		Need to combine diverse knowledge and skills	66	3.73	.887
		Need creativity and new ideas	66	3.86	1.051
		Autonomy and independence	66	3.33	.810
		Work on your own pace	66	2.73	.887
		Work relax-without pressure	66	2.20	1.026
		Use the business knowledge and skills	66	4.09	.779
		Relevant with management studies	66	3.91	.818
		Give the chance for seminars and courses/personal growth	66	4.35	.712
		The chance to learn something new each day	66	3.89	.806
		Interact and cooperate with a lot of people	66	3.80	.808
		Meet and deal with variety of people	66	3.88	.814
		Work with other employees	66	3.80	.808
		Helps the well being of society	66	3.36	.905
		High social contribution	65	3.28	.820
		High social responsibility	66	3.65	.969

Beginning	Traditional	Find easily a job	149	3.17	1.029
		A secure and stable professional future	149	3.14	.930
		A high income and economic standard of living	149	3.40	.922
		A high long term salary	149	3.46	.997
		Convenient hours of work	149	3.05	1.153
		Get ahead quickly in my career	149	2.87	1.002
		The chance to have my own business someday	149	3.52	1.107
		Promote to senior level positions in the company	149	3.36	1.140
		The chance to participate in decision making	149	3.52	1.017
		To become consultant-business advisor	149	3.61	.998
		High social status	148	3.22	.975
		Well respected in the society and in the business	149	3.42	.994
		On a par with law, medicine and engineer	149	2.79	1.200
		Interesting job	149	3.28	1.145
		I like the kind of accounting job	149	3.34	1.282
		Need to combine diverse knowledge and skills	148	3.76	.999
		Need creativity and new ideas	149	3.74	1.129
		Autonomy and independence	149	3.31	1.039
		Work on your own pace	149	2.91	1.090
		Work relax-without pressure	149	2.62	1.223
		Use the business knowledge and skills	149	3.90	1.076
		Relevant with management studies	149	3.58	1.146
		Give the chance for seminars and courses/personal growth	149	3.99	.955
		The chance to learn something new each day	148	3.42	1.131
		Interact and cooperate with a lot of people	148	3.88	.880
		Meet and deal with variety of people	148	3.83	.986
		Work with other employees	149	3.66	1.011
		Helps the well being of society	149	3.29	1.061
		High social contribution	149	3.08	1.075
		High social responsibility	149	3.31	1.278
End	Traditional	Find easily a job	149	3.09	1.090
		A secure and stable professional future	149	3.29	1.029
		A high income and economic standard of living	149	3.60	1.013
		A high long term salary	149	3.68	1.035
		Convenient hours of work	148	3.02	1.157
		Get ahead quickly in my career	149	3.10	.903
		The chance to have my own business someday	148	3.52	1.209
		Promote to senior level positions in the company	149	3.37	1.029
		The chance to participate in decision making	148	3.40	1.015
		o become consultant-business advisor	148	3.57	.970
		High social status	147	3.26	1.014
		Well respected in the society and in the business	148	3.42	.948
		On a par with law, medicine and engineer	149	2.77	1.049
		Interesting job	147	3.14	1.214
		I like the kind of accounting job	147	3.05	1.300
		Need to combine diverse knowledge and skills	149	3.45	1.003
		Need creativity and new ideas	147	3.51	1.119
		Autonomy and independence	148	3.14	1.043
		Work on your own pace	148	2.82	1.041
		Work relax-without pressure	149	2.48	1.172
		Use the business knowledge and skills	147	3.76	1.016
		Relevant with management studies	149	3.58	1.041
		Give the chance for seminars and courses/personal growth	147	3.86	.881
		The chance to learn something new each day	148	3.36	1.004
		Interact and cooperate with a lot of people	148	3.59	1.036
		Meet and deal with variety of people	147	3.69	1.024
		Work with other employees	149	3.64	.960
		Helps the well being of society	149	3.30	.964
		High social contribution	148	3.07	1.008
		High social responsibility	148	3.28	1.074

Table 7 Descriptive statistics - Sub dimensions of Attitude

Time	Variable	Group	N	Mean	Std. Deviation
End	M2SDsecurity	Innovative	66	17.2424	3.57367
		Traditional	149	14.2953	5.25017
	M2SDeconreturns	Innovative	66	17.8561	4.07314
		Traditional	149	16.0738	4.97608
	M2SDsececretur	Innovative	66	17.5492	2.76211
		Traditional	149	15.1846	4.56461
	M2SDworkcondition	Innovative	66	11.5606	4.32036
		Traditional	148	12.1081	4.70401
	M2SDautonomy	Innovative	66	12.0379	3.83738
		Traditional	146	12.0822	4.77928
	M2SDinteresting	Innovative	66	16.1818	5.37633
		Traditional	145	14.3069	6.14529
	M2SDcreativity	Innovative	66	16.8409	5.28944
		Traditional	147	14.9864	4.86740
	M2SDnatureacjob	Innovative	66	16.5114	4.37814
		Traditional	144	14.7049	4.56506
	M2SDbuskills	Innovative	66	18.1364	4.32750
		Traditional	147	15.9490	5.37553
	M2SDpersongrowth	Innovative	66	18.0985	4.14935
		Traditional	147	15.5544	5.09638
	M2Sdevelbuskills	Innovative	66	18.1174	3.56808
		Traditional	146	15.7397	4.65276
	M2Sadvprom	Innovative	66	16.2020	3.54694
		Traditional	147	14.8122	4.66676
	M2Sdesicmaking	Innovative	66	16.0985	4.79601
		Traditional	146	14.3219	5.25972
	M2Sadvancbussinposition	Innovative	66	16.1503	3.70493
		Traditional	144	14.5899	4.55507
	M2SDsocstatus	Innovative	65	14.3282	4.13718
		Traditional	146	12.9087	4.97064
	M2SDwwothers	Innovative	66	16.4798	4.87839
		Traditional	147	14.9478	5.07204
	M2SDsocresponsibility	Innovative	65	12.8718	4.69215
		Traditional	148	12.2050	5.14910

Table 8 Descriptive statistics of the constructs of PC

Time	Variable	Group	N	Mean	Std. Deviation
Beginning	Total Self Efficacy	Innovative	65	3.2256	.89192
		Traditional	148	3.2095	.87829
End	Total Self Efficacy	Innovative	65	3.1897	1.03241
		Traditional	149	2.8054	.99481
Beginning	Total importance of SE	Innovative	66	4.4495	.51138
		Traditional	149	4.4810	.50431
End	Total importance of SE	Innovative	66	4.6465	.35986
		Traditional	149	4.4004	.56417

Table 9 Descriptive statistics-Individual items of PC

Time 9	Variable	Group	N	Mean	Std. Deviation
Beginning	SE skills	Innovative	65	3.26	1.004
	SE degree	Innovative	65	3.20	1.093
	SE exam	Innovative	65	3.22	.976
	ISE skills	Innovative	66	4.47	.706
	ISE degree	Innovative	66	4.45	.637
	ISE exam	Innovative	66	4.42	.681
End	M2SE skills	Innovative	66	3.33	1.072
	M2 SE degree	Innovative	66	3.20	1.099
	M2 SE exam	Innovative	65	3.08	1.122
	M2 ISE skills	Innovative	66	4.61	.523
	M2 ISE degree	Innovative	66	4.61	.492
	M2 ISE exam	Innovative	66	4.73	.449
Beginning	SE skills	Traditional	148	3.23	1.004
	SE degree	Traditional	149	3.15	1.064
	SE exam	Traditional	148	3.23	.889
	ISE skills	Traditional	149	4.46	.712
	ISE degree	Traditional	149	4.45	.641
	ISE exam	Traditional	149	4.54	.552
End	M2SE skills	Traditional	149	2.92	1.075
	M2 SE degree	Traditional	149	2.70	1.118
	M2 SE exam	Traditional	149	2.79	1.086
	M2 ISE skills	Traditional	149	4.34	.768
	M2 ISE degree	Traditional	149	4.38	.758
	M2 ISE exam	Traditional	149	4.49	.588

Appendix 8.4 Effect of Traditional FAC on sub constructs of ACC

Table 1 Paired Samples Statistics-Work Values and Beliefs- Traditional FAC

Group			Mean	N	Std. Deviation	Std. Error Mean
Traditional FAC	Pair 1	Extrinsic WV	4.3630	146	.39836	.03297
		M2ExtrinsicWV	4.3082	146	.45961	.03804
	Pair 2	Intrinsic WV	4.3946	147	.44943	.03707
		M2IntrinsicWV	4.3724	147	.50031	.04127
	Pair 3	Prestige WV	4.2118	147	.65760	.05424
		M2PrestigeWV	4.1791	147	.66355	.05473
	Pair 4	Social WV	3.7703	148	.75001	.06165
		M2SocialWV	3.8784	148	.68913	.05665
	Pair 5	Extrinsic beliefs	3.1284	146	.66646	.05516
		M2Extrinsicbel	3.1396	146	.70749	.05855
	Pair 6	Intrinsic beliefs	3.6223	140	.77280	.06531
		M2Intrinsicbel	3.4679	140	.75781	.06405
	Pair 7	Prestige beliefs	3.2940	142	.72875	.06116
		M2Prestigebelief	3.2879	142	.74896	.06285
	Pair 8	Social beliefs	3.5230	145	.77644	.06448
		M2Socialbelief	3.4333	145	.77639	.06448

Table 2 Paired Samples T-Test - Differences in WV and Beliefs-Traditional FAC

Group			Paired Differences					t	df	Sig. (2-tailed)
			Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
						Lower	Upper			
Traditional	Pair 1	Extrinsic WV - M2ExtrinsicWV	.05479	.48467	.04011	-.02448	.13407	1.366	145	.174
	Pair 2	Intrinsic WV - M2IntrinsicWV	.02211	.54106	.04463	-.06609	.11030	.495	146	.621
	Pair 3	Prestige WV - M2PrestigeWV	.03265	.58126	.04794	-.06210	.12740	.681	146	.497
	Pair 4	Social WV - M2SocialWV	-.10811	.80081	.06583	-.23820	.02198	-1.642	147	.103
	Pair 5	Extrinsic beliefs - M2Extrinsicbel	-.01113	.67943	.05623	-.12227	.10001	-.198	145	.843
	Pair 6	Intrinsic beliefs - M2Intrinsicbel	.15446	.74044	.06258	.03074	.27819	2.468	139	.015
	Pair 7	Prestige beliefs - M2Prestigebelief	.00616	.68097	.05715	-.10681	.11914	.108	141	.914
	Pair 8	Social beliefs - M2Socialbelief	.08966	.74251	.06166	-.03222	.21153	1.454	144	.148

Appendix 8.5 Effect of innovative FAC on sub constructs of ACC

Table 1 Paired Samples Statistics -Work Values and Beliefs-Innovative FAC

Group			Mean	N	Std. Deviation	Std. Error Mean
Innovative	Pair 1	Extrinsic WV	4.3385	65	.42946	.05327
		M2Extrinsic WV	4.4692	65	.31408	.03896
	Pair 2	Intrinsic WV	4.4318	66	.41728	.05136
		M2Intrinsic WV	4.4962	66	.41253	.05078
	Pair 3	Prestige WV	4.2677	66	.47939	.05901
		M2Prestige WV	4.3586	66	.55872	.06877
	Pair 4	Social WV	3.8712	66	.61588	.07581
		M2Social WV	3.9773	66	.66467	.08181
	Pair 5	Extrinsic beliefs	3.2500	65	.62344	.07733
		M2Extrinsicbeliefs	3.2692	65	.48373	.06000
	Pair 6	Intrinsic beliefs	3.7808	65	.72316	.08970
		M2Intrinsicbeliefs	3.8404	65	.56142	.06964
	Pair 7	Prestige beliefs	3.3846	65	.56480	.07005
		M2Prestigebeliefs	3.5288	65	.53709	.06662
	Pair 8	Social beliefs	3.6692	65	.67282	.08345
		M2Socialbeliefs	3.6308	65	.63839	.07918

a The correlation and t cannot be computed because there are no valid pairs.

Table 2 Paired Samples T-Test - Differences in WV and Beliefs - Innovative FAC

Group			Paired Differences					t	df	Sig. (2-tailed)
			Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
						Lower	Upper			
Innovative	Pair 1	Extrinsic WV - M2ExtrinsicWV	-.13077	.44218	.05485	-.24034	-.02120	-2.384	64	.020
	Pair 2	Intrinsic WV - M2IntrinsicWV	-.06439	.41674	.05130	-.16684	.03805	-1.255	65	.214
	Pair 3	Prestige WV - M2PrestigeWV	-.09091	.52476	.06459	-.21991	.03809	-1.407	65	.164
	Pair 4	Social WV - M2SocialWV	-.10606	.67091	.08258	-.27099	.05887	-1.284	65	.204
	Pair 5	Extrinsic beliefs - M2Extrinsicbel	-.01923	.61047	.07572	-.17050	.13204	-.254	64	.800
	Pair 6	Intrinsic beliefs - M2Intrinsicbel	-.05962	.65926	.08177	-.22297	.10374	-.729	64	.469
	Pair 7	Prestige beliefs - M2Prestigebelief	-.14423	.62353	.07734	-.29873	.01027	-1.865	64	.067
	Pair 8	Social beliefs - M2Socialbelief	.03846	.66391	.08235	-.12605	.20297	.467	64	.642

Appendix 8.6 Differences on constructs of an ACC among groups of students in traditional and innovative FAC

Table 1 Descriptive statistics-Dimension of SN

Time	Variable	Group	N	Mean	Std. Deviation
End	Family	Innovative	66	14.2273	6.33621
		Traditional	149	12.7718	6.18534
	Peers/Friends	Innovative	66	10.7879	5.85600
		Traditional	148	9.5405	4.71122
	Society	Innovative	66	11.2424	5.11727
		Traditional	148	10.7905	5.43515
	Teachers	Innovative	66	12.4394	6.01058
		Traditional	149	9.8054	6.03669

Table 2 Independent Samples T-Test - Dimensions of SN

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Family	Equal variances assumed	.087	.769	1.580	213	.116	1.45546	.92144	-.36084	3.27176
	Equal variances not assumed			1.565	121.915	.120	1.45546	.93009	-.38575	3.29668
Friends	Equal variances assumed	3.953	.048	1.656	212	.099	1.24734	.75334	-.23767	2.73234
	Equal variances not assumed			1.524	104.103	.130	1.24734	.81827	-.37529	2.86997
Society	Equal variances assumed	1.213	.272	.572	212	.568	.45188	.79035	-1.10607	2.00984
	Equal variances not assumed			.585	132.070	.559	.45188	.77225	-1.07569	1.97946
Teachers	Equal variances assumed	.117	.733	2.955	213	.003	2.63402	.89142	.87690	4.39115
	Equal variances not assumed			2.960	125.094	.004	2.63402	.88992	.87278	4.39527

Table 3 Descriptive statistics-Sub-Dimensions of Attitude

Time	Variable	Group	N	Mean	Std. Deviation
End	M2SDeconreturns	Innovative	66	17.8561	4.07314
		Traditional	149	16.0738	4.97608
	M2SDworkcondition	Innovative	66	11.5606	4.32036
		Traditional	148	12.1081	4.70401
	M2SDautonomy	Innovative	66	12.0379	3.83738
		Traditional	146	12.0822	4.77928
	M2SDnatureacjob	Innovative	66	16.5114	4.37814
		Traditional	144	14.7049	4.56506
	M2Sdevelbus skills	Innovative	66	18.1174	3.56808
		Traditional	146	15.7397	4.65276
	M2Sadvancbussinposition	Innovative	66	16.1503	3.70493
		Traditional	144	14.5899	4.55507
	M2SDsocstatus	Innovative	65	14.3282	4.13718
		Traditional	146	12.9087	4.97064
	M2SDwwothers	Innovative	66	16.4798	4.87839
		Traditional	147	14.9478	5.07204
	M2SDsocresponsibility	Innovative	65	12.8718	4.69215
		Traditional	148	12.2050	5.14910

Table 4 Independent Samples T-Test - Sub- Dimensions of Attitude

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
M2SDeconreturns	Equal variances assumed	2.330	.128	2.554	213	.011	1.78224	.69774	.40687	3.15760
	Equal variances not assumed			2.758	150.470	.007	1.78224	.64619	.50547	3.05900
M2SDworkcondition	Equal variances assumed	.764	.383	-.806	212	.421	-.54750	.67936	-1.88666	.79165
	Equal variances not assumed			-.833	135.186	.406	-.54750	.65751	-1.84784	.75284
M2SDautonomy	Equal variances assumed	2.608	.108	-.066	210	.947	-.04431	.66878	-1.36269	1.27406
	Equal variances not assumed			-.072	154.142	.943	-.04431	.61609	-1.26137	1.17275
M2SDnatureacjob	Equal variances assumed	.353	.553	2.696	208	.008	1.80650	.67002	.48559	3.12741
	Equal variances not assumed			2.739	131.120	.007	1.80650	.65966	.50156	3.11145
M2Sdevelbus skills	Equal variances assumed	3.783	.053	3.688	210	.000	2.37770	.64464	1.10691	3.64848
	Equal variances not assumed			4.071	160.755	.000	2.37770	.58410	1.22420	3.53120
M2Sadvancbussinposition	Equal variances assumed	1.918	.168	2.437	208	.016	1.56032	.64029	.29803	2.82262
	Equal variances not assumed			2.630	152.904	.009	1.56032	.59335	.38810	2.73255
M2SDsocstatus	Equal variances assumed	3.197	.075	2.012	209	.045	1.41953	.70545	.02882	2.81024
	Equal variances not assumed			2.158	146.065	.033	1.41953	.65769	.11971	2.71935
M2SDwwothers	Equal variances assumed	.447	.504	2.062	211	.040	1.53195	.74280	.06769	2.99621
	Equal variances not assumed			2.093	129.793	.038	1.53195	.73184	.08407	2.97983
M2SDsocresponsibility	Equal variances assumed	.451	.503	.894	211	.373	.66684	.74622	-.80415	2.13783
	Equal variances not assumed			.927	133.360	.356	.66684	.71962	-.75651	2.09019

Table 5 Descriptive statistics- Dimensions of PC

Time	Variable	Group	N	Mean	Std. Deviation
End	M2PC skills	Innovative	66	14.7424	5.56171
		Traditional	149	11.8926	5.62228
	M2PC degrees	Innovative	66	15.2879	5.06805
		Traditional	149	12.8859	5.47047
	M2PC exams	Innovative	65	14.4923	5.49182
		Traditional	149	12.5906	5.32715

Table 6 Independent Samples Test Sub- Dimensions of PC

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
M2SE skills	Equal variances assumed	.013	.908	3.439	213	.001	2.84981	.82859	1.21651	4.48310
	Equal variances not assumed			3.454	125.839	.001	2.84981	.82512	1.21690	4.48272
M2SEdegrees	Equal variances assumed	1.062	.304	3.036	213	.003	2.40197	.79119	.84241	3.96153
	Equal variances not assumed			3.127	133.758	.002	2.40197	.76812	.88273	3.92121
M2SE exams	Equal variances assumed	.000	.999	2.379	212	.018	1.90170	.79934	.32604	3.47737
	Equal variances not assumed			2.351	118.677	.020	1.90170	.80899	.29978	3.50363